THE

INDIAN RURAL PROBLEM

Third Edition

by

MANILAL B. NANAVATI

and

J. J. ANJARIA

UNIVERSITY LIBRARY
ALLAHABAD

THE INDIAN SOCIETY OF AGRICULTURAL ECONOMICS
BOMBAY

VORA & CO. PUBLISHERS LTD.
3, ROUND BUILDING, KALBADEVI ROAD, BOMBAY 2.

Third Edition, November, 1947.

Price Rupees Twelve only

Printed by A. P. Sata at States' People Press, Meadows Street, Bombay.
Published by M. L. Dantwala, Hon. Secretary, Indian Society of Agricultural Economics, 46-48 Esplanade Road, Bombay.

FOREWORD

First published in 1944, the Indian Rural Problem by Sir Manilal B. Nanavati and Shri J. J. Anjaria has run into five editions. Though the fifth edition published in 1960 was 'largely rewritten', due to rapid developments, the need was felt to revise many sections and bring them up-to-date. As one of the authors, Shri Anjaria is out of India, we felt that it would be unfair to put the burden of revising the book on Sir Manilal Nanavati. It was therefore suggested that the responsibility of revising the book should be taken up by a group of younger scholars. This suggestion evoked spontaneous acceptance particularly because it was felt that, in a way, it would be a token of our regard and gratitude to Sir Manilal whose services to the Society and to our profession are indeed very great. It was suggested that the revision should be the minimum necessary and should not as far as possible affect the tenor of the arguments.

This revised sixth edition is divided into five parts, each part dealing with different aspects of the Indian rural economy. The first part gives the basic facts of Indian agriculture. The second part deals with the evolution of Indian agricultural policy and of the systems of land tenure and the growth of diverse interests in land, and it is followed by a review of the progress of land reforms in India. It also studies the pattern of distribution of holdings and of ownership and tenancy and discusses the measures for containing the evils of sub-division and fragmentation. Another chapter briefly discusses the basic philosophy and principles of community development in India, gives an account of the main features of the programme patterns, the achievement and results of the community development programme as well as the progress of *Panchayati Raj*. Part III deals with the institutional aspects of prices, finance and co-operative credit and agricultural marketing and processing. Part IV contains five chapters, each devoted to land revenue and agricultural taxation, foreign trade in agricultural commodities, agricultural labour and rural unemployment, rural engineering and social services. The last part brings together the essential points of a connected approach to the Indian rural problem and relates it to the concept of developmental planning envisaged in our Five-Year Plans. It also sets forth briefly the objectives and techniques of these Plans, to evaluate their achievements in relation especially to agriculture and to indicate the tasks that lie ahead.

The responsibility of revising the book was taken up by a group of scholars under the direction and overall guidance of Professor M. L. Dantwala, Shri V. M. Jakhade, Shri G. B. Kulkarni and Dr. C. H. Shah. The following scholars have collaborated in revising the chapters of the book: Dr. A. C. Shah (Chapters I and IX), Dr. N. A. Mujumdar (Chapters II and XVII), Dr. Pravin M. Visaria (Chapter II), Shri B. B. Pawar (Chapter III), Shri T. R. Sundaram (Chapters IV, V, VII, XV and XVI), Dr. V. M. Rao (Chapter V), Shri Bashir A. Desai (Chapters V and XV), Dr. T. K. Meti (Chapter VI), Dr. H. B. Shivamaggi (Chapter VIII), Shri R. S. Srivastava (Chapter X), Dr. (Mrs.) Tara Shukla (Chapter XI), Dr. J. N. Barmeda (Chapter XII), Shri V. M. Jakhade (Chapters XIII and XIV), Dr. S. S. Madalgi (Chapter XIV), Dr. K. Subramaniam (Chapter XV), Dr. K. S. Karanth, and Dr. F. P. Antia (Chapter XVIII), Dr. S. M. Shah (Chapter XIX), and Dr. P. R. Baichwal. To all of them, we express our deep gratitude.

The task of editing the chapters prepared by different scholars was indeed an arduous one. We are grateful to Professor M. L. Dantwala for sparing his valuable time and effort for this somewhat laborious but very responsible job.

We also thank Messrs Sirur Printing Press, Bombay-4, for printing the book with commendable dispatch.

Bombay, D. G. KARVE
May, 1965. *President*

PREFACE TO THE SIXTH EDITION

We feel very grateful to Professor D. G. Karve, the President of the Indian Society of Agricultural Economics, for constituting a sort of panel of four scholars, Professor M. L. Dantwala, Shri V. M. Jakhade, Shri G. B. Kulkarni and Dr. C. H. Shah under whose direction and guidance our Indian Rural Problem has been revised to form the sixth edition. Twenty-one chapters of the Volume have been revised by twenty scholars.

We are happy to find that the work of revising the old manuscripts and bringing them up-to-date in every respect — in statistics and in recent developments — has been carried out very satisfactorily. We offer to all of these scholars our most sincere congratulations.

In this process of revision, the old complaint that in the earlier editions there was some repetition in the first and the second part has now been avoided without making changes in the original set up.

From the beginning of this Society we had established a very close contact with the School of Economics & Sociology of the Bombay University and specially with its section of Agricultural Economics in the establishment of which the Society was instrumental. The results of this happy association are apparent in this Volume and we do hope and trust that this association will be still more strengthened in the future to our mutual benefit.

Bombay,
May, 1965.

M. B. N.
J. J. A.

PREFACE TO THE FIFTH EDITION

This book was first published in 1944 at a time when political and economic conditions in the country were very different from what they are today. The purpose of the book, at the time of its first publication, was to present a broad picture of the social and economic structure of rural India with the help of such information as was available then. Our analysis led us to the conclusion that the multiplicity of rural social and economic problems was only apparent and that basically the Indian rural problem was one — *viz.*, that of raising the standard of life of the rural masses. The need at the time was to get a broad, coordinated approach accepted, and our main thesis was that the State had to accept positive responsibility for initiating rural development, on the one hand through its own legislative and administrative action and, on the other, through the promotion of local self-governing institutions.

Momentous changes have taken place in the political and economic life of the country over the last two decades. With the advent of political Independence, the national Government has adopted a policy of planned economic development of the country. Many of the ideas put forward in the book have become part of accepted policy. If we were to write the book afresh, we would, undoubtedly, write it differently. But, books, like individuals, have their own careers, once they are launched. There has been continuing demand for a new edition of the book. We have tried in this edition to revise and rewrite considerable portions of the book. We have made use of the latest data available. We hope the book in this new form will be useful not only to students but also to the wider public interested in the Indian rural problem.

We wish to record our warm appreciation of the work done by Shri T. R. Sundaram, Junior Research Officer of the Society, in the preparation of this revised edition. We highly appreciate his extremely painstaking assistance in compilation of data and his careful and intelligent study in collating them. His devotion and industry in bringing out this edition are very commendable.

We are most grateful to the Examiner Press for the excellent work they have done, despite irritating — though unavoidable — delays on our part in sending them the manuscript.

Bombay, M. B. N.
September, 1960. J. J. A.

PREFACE TO THE FOURTH EDITION

Since the publication of the third edition of this book in 1947, momentous changes have occurred in India and the world over with their inevitable impact on the problem of rural economy. New problems like persistent shortages of food and industrial raw materials and the continuance of inflationary pressures have assumed a special urgency. The Indian economy has been thrown into a serious state of imbalance as a result of the War, the Partition and merger of former Native States in the Indian Union. The attainment of political freedom has given new opportunities for tackling these problems with vigour and confidence and it is particularly necessary at this stage that measures adopted to meet the immediate problems have also an eye on the more long-term social objectives which alone can give meaning and content to political freedom. The approach to the Indian Rural Problem indicated in this book, we feel, still retains validity. The need to revitalise the village through the introduction of multipurpose co-operative societies, panchayats and schools and to improve and strengthen the administrative system especially at the points where it touches the rural population has been brought out even more clearly than before by the developments of the last few years. The basic problem of Indian agriculture has been and is how to secure a substantial increase in productivity. While an improvement in the techniques of cultivation and allied processes is essential for securing this improvement, the problem cannot be solved except through the sort of integrated sociological approach which it has been the object of this book to propound. Indian agriculture as at present organised does not respond easily to expansionary stimuli. Neither the farm nor the farmer is in a position to benefit from piecemeal measures of assistance or encouragement. The correct approach to the problem lies through a "combined operation" in which technical aid, organisational improvements, finance and extension services are all mobilised effectively so as not only to secure an increase in production but also to provide the basis for a more dynamic economy and a better way of life for the rural producer.

In view of the big political and economic changes of the last few years, the time has come for completely re-writing this book. It is regretted that this has unfortunately not been found possible.

An additional section at the end reviews briefly the effect of the War and the Partition on land utilisation and crop pattern, surveys the major developments in agrarian reforms, and sketches briefly the government plans in respect of land reclamation, river valley schemes, etc. It is hoped that this addition will make good partially the obsolescence of some of the material contained in the book. The authors are fully aware of the need for "a completely new and revised edition" and they hope to commence work on it in the near future.

Bombay, M. B. N.
January, 1951. J. J. A.

PREFACE TO THE THIRD EDITION

We should like to place on record here our sense of appreciation of the cordial reception accorded to the first and second editions of the book by the public as well as the reviewers. Four momentous years have elapsed since the first edition was published and we should have liked to take this opportunity for appraising recent developments. The third edition is, however, going out as a reprint of the two earlier editions, for the available information relating to post-war years is far too sketchy and the developments yet to come far too uncertain to warrant definitive changes in the text. While it is true that over the last few years a great deal of thinking has been done on the planning of agriculture and the rural economy, we have as yet no plans fully worked out and ready to be implemented. The structural bases of agricultural and rural life remain the same as before the war.

In two important spheres, *viz.*, irrigation and land tenures, vital developments have already been initiated. Details are being worked out for large irrigation projects, such as the Kosi Project, the Damodar Valley Project, the Mahanadi Project, the Tungabhadra Project and the Narbada and Tapti Projects, which, when completed, are estimated to add 25 million acres to the existing 70 million acres of India's land under irrigation. Besides bringing vast tracts of barren soil under cultivation, these projects would also generate power to the extent of 4 million kilowatts as against only half a million produced currently. In the predominantly Zamindari provinces, Governments have decided upon abolish-ing the Zamindari tenure, and, in some, special Committees have been appointed to work out the necessary procedure for implementing this reform. But it will be some time before the benefits of these two important measures actually begin to accrue to the people. In the meanwhile, the breaking up of India's political unity is apt to create new problems. The post-war plans, hitherto envisaged, have been built on the assumption of continued political unity. These plans will have to be re-adapted to the changed circumstances. We have thought it best, therefore, not to attempt an enlargement or revision of the text at this stage.

Bombay, M. B. N.
November, 1947. J. J. A.

PREFACE TO THE SECOND EDITION

The publication of a Second Edition which is *not* revised and enlarged but is just a reprint of the first seems to call for an apology. The decision is deliberate. Since the first edition was published, there have been some developments in regard to some of the problems discussed in this book which we had thought at first of commenting upon. The Government of India as well as some Provincial Governments have published plans for the development of agriculture and the promotion of rural welfare. These deserve a careful appraisal. The purpose of this book, however, has been to set out the fundamentals of the Indian Rural Problem and to indicate the general lines of solution rather than to review specific legislative measures and plans. On a balance of considerations, therefore, we have decided to reissue the book in the present form in view of the persistent demand for it. We would like to add that the reviewers have been very generous in their appreciation of this volume and we have hardly received any critical suggestions for improvements. Some readers have, however, suggested the need for including an index and we have, therefore, given at the end a subject index, an author index and an index of reports cited.

Bombay, M. B. N.
May, 1945. J. J. A.

PREFACE TO THE FIRST EDITION

This is the first publication of the Indian Society of Agricultural Economics undertaken in pursuance of its new programme of activities adopted by the Executive Committee in June, 1942 and endorsed by the General Annual Meeting at Walchandnagar in December, 1943. As regards the problem dealt with in this study I need not say anything here as the relevant points are set out in the Authors' Introduction.

It is only necessary to point out that the views herein expressed are the authors' own views, and the Society as such is not committed to them. The Society is open to members from all walks of life and of all shades of opinions. It does not, therefore, as a body, subscribe to any particular views or opinions.

This publication is to be followed by several others which have already been projected. It is hoped to bring out in the near future a volume dealing with the Land Problem of India — the problem which, as the present work seeks to show, is the most vital of all our rural problems. Several scholars and experts have already started working on the problem in their respective regions, and it is our intention to bring these together in one volume so as to present a picture of the conditions all over the country. The volume will be edited by Prof. D. R. Gadgil of the Gokhale Institute of Economics and Political Science, Poona.

The Society has also planned a series of general monographs on the rural life problems of different Provinces and States and we hope to publish at least one of these, which has been almost completed, in the near future. This as well as the other regional studies which will follow have all been planned along the lines of the monographs prepared by the various European Governments prior to the calling of the European Rural Life Conference of 1939.

(Sir) MANILAL B. NANAVATI,
President,
Indian Society of Agricultural Economics.

Bombay,
April, 1944.

INTRODUCTION TO THE FIRST EDITION

It is not difficult to say what the Indian Rural Problem is. At bottom it is none other than that of raising the standard of life of the rural masses. During the last twenty-five years, there has been a considerable growth of industries in India, but this has made hardly any impression on our standard of life, more especially in the rural areas. Industrialism in this country has been an exotic growth, super-imposed upon an unprepared and undeveloped economic structure. Our industrial progress has been slow and lopsided; the few large-scale industries we have are concentrated in the cities. We have failed to develop the basic and key industries which are the very corner-stone of the industrial edifice in the advanced countries of the world, and the need for developing small-scale and cottage industries has been realised only lately and slowly. As to agriculture, it remains as backward and primitive as ever. The productivity of agriculture has not increased; in certain respects, it is possible, it has actually decreased. As India lives in her villages, and agriculture is the very backbone of her economic life, we must devote all our efforts to solve the rural problem. The objective is to increase the income of the rural population so as to improve its standards of nutrition, sanitation, housing and education, and this presupposes certain social, political and administrative changes. For one who knows our rural life and its problems, this is no easy task. Agriculture, it has often been said, is not, for our farmers, a business proposition, but a way of life. A way of life cannot be changed by half-measures and piecemeal efforts. It presupposes an all-round, well-planned and co-ordinated effort on the part of the authorities responsible for the well-being of the people.

The root cause of the low productivity of Indian agriculture is our failure to apply modern science to it, but before this could be done, extensive measures for the reform of the land system are necessary. The great economic transformation in European countries during the eighteenth and nineteenth centuries was brought about by the adoption of a new system of crop rotation, better methods of sowing and reaping, the use of chemical manures, and, in general, the application of new scientific knowledge to all the related aspects of the economy. In the process, new economic institutions developed and the entire way of life was altered. In this transformation, the State played a prominent part. Behind what we call the Industrial Revolution, there was not merely a new technique, but also a new spirit, a spirit of innovation, adventure and experiment. A number of factors, political and social. conditioned the manner in which and the tempo with which the transformation took place in different countries, but in essence, the motive force behind it was the same — a desire to go forward, to raise the standard of life so as to turn the economic struggle from one for bare existence into one for a competence and a surplus.

The peculiar circumstances under which industrialism was introduced into this country generated, on the other hand, a spirit of defeatism, and despair among the people. They could not comprehend these "miracles" of science. While the railway and the telegraph brought them face to face with world forces, their technique, outlook and mode of life remained generally unaffected. The old balance between agriculture and industry was destroyed; the villager found his subsidiary industries decaying; there appeared nothing in their place he could take up, no alternative avenues for employment. The result was more and more ruralisation, more and more dependence on agriculture, more and more pressure on the soil. A few cities and towns grew richer, but the rural areas generally sank into greater poverty. from which there seemed to be no escape.

Indian economists, following in the footsteps of Gokhale and Ranade, were not slow to recognise this peculiar character of the economic transition in India. They noted the peculiar difficulties of the Indian problem and tried to point out the absurdity of following in India a policy which may be good enough or just fashionable for England. The policy of the Government of India has been on the whole but little affected by the criticisms or suggestions of our economists. Even the suggestions and recommendations of their own Committees and Commissions have not been fully implemented. The various Famine Commissions of the third quarter of the last century pointed out the seriousness of the agrarian problem, but until about the end of the last war, almost nothing was done either to reorganise agriculture on a new scientific basis or to foster industries, large scale, so as to relieve the pressure on the land and to increase the national income. It is true that the Government had a Famine Relief policy and that they developed railways and irrigation which have reduced the severity of famines. Such measures were, however, quite inadequate to the needs of the situation. In 1919, agriculture became a transferred subject, but the limitations of Diarchy, especially in the field of finance, made any radical improvements impossible. It was in 1926 that the Royal Commission on Agriculture was appointed to review the entire field comprehensively and indicate lines of progress. This Report is a landmark in the evolution of agricultural policy in India. Its recommendations covered almost every aspect of rural life, and it seemed as though the Government of India had at last decided to take a more active interest in our rural problem. However, several important topics were excluded from the scope of the Commission's enquiry, such as land reforms, irrigation cess, and inter-departmental co-ordination. It was expected that a separate Commission would be appointed later to deal with these aspects, but that was not done. During the two decades thereafter we have advanced negligibly, if at all; for close on ten years, our agriculture was in the grips of the Great Depression. The popular Ministries of 1937 in the Provinces took up the problem in all earnestness and with determination, but the war supervened and found us quite unprepared and unorganised to face its manifold problems. At a time when a country like England with a large food deficit is able to feed its people fairly satisfactorily, we in this country were confronted with a complete debacle. The Government of India hesitated between control, decontrol and partial control; the various Provinces were unable to evolve a co-ordinated policy in the higher interests of the country. More recently, a more comprehensive policy has been formulated with reference to war-time needs. The Government of India have also appointed a Long-term Agricultural Policy Committee to go into problems of post-war reconstruction and development, but this Committee has not met so far. It is evident that so long as the Government of India do not change radically their entire outlook on and policy in respect of our rural problems, no satisfactory solution is possible. If freedom from want is going to be the basis of the new economic order after the war, it is necessary to assure at least a bare minimum to India's teeming millions.

It has often been said that agriculture in India is on a deficit economy. We find on our hands an antiquated land system which leaves no impetus for the tiller of the soil; we have all the evils of a feudalistic system with none of its redeeming features. There are far too many people on the land; land holdings are getting smaller and more and more scattered; the system of agricultural finance through co-operative societies has failed to help the agriculturist substantially; there is no adequate road system for transport, no proper grading or standardisation of agricultural produce; land taxation is iniquitous, and no organisation exists to look after our rural problem in all its economic and social aspects. Co-operation has been tried, without much success; there has been some piecemeal tenancy legislation in respect of a few selected areas. The Agricultural Research Institute at Pusa, the various Agricultural Colleges, the Imperial Council of Agricultural Research, the Indian Central Cotton Committee and the Central Jute Committee and of late the Agricultural Credit Department of the Reserve Bank of India have undoubtedly been doing some valuable research work. Some of the Indian Universities have courses of instruction in rural economics and their Economics Departments have, even with their meagre resources, done some amount of research work on rural problems. It is, however, symptomatic of our general apathy to this vital problem of rural reconstruction, reform and planning, that hardly any of our Universities has a Chair in Agricultural Economics with specialised staff and adequate equipment. All this contrasts very unfavourably with the work done and being done even in these abnormal times in countries like the U.K. and the U.S.A. A few public bodies and organisations, like the Servants of India Society, the All-India Spinners' Association, the All-India Village Industries Association, the Harijan Sevak Sangh and the Kisan Sabha have done some work in the field, partly of a practical nature and partly of the research type. But, research and new knowledge have not yet fertilised our agriculture or penetrated to the actual farms.

It is not the object of these preliminary remarks to point out what can be done and must be done here and now, but merely indicate the gravity and urgency of visualising our rural problem as a whole and to make out a *prima facie* case for an active State policy in this regard. There is no better agency for the necessary comprehensive planning than the State, and this, under our conditions, means ultimately the Government of India, for this is truly a matter which concerns the "peace, safety and tranquillity" of the country.

We would also emphasise in this connection that a proper policy on the part of the State must include in it as a basic plank the question of land reform. Unless the system of land tenures and land holdings with the attendant evils of absentee landlordism, sub-infeudation and tenancies, feudal levies and exactions and sub-division and fragmentation of holdings is altered, it is not possible to increase the productivity of the land. Several European countries were faced with similar problems during the nineteenth century, and they tried to reform their land systems by suitable legislative and other measures, thus making famines to a large extent a thing of the past. Most of these countries have favoured the system of peasant proprietorship and have sought to rehabilitate the peasant so as to make him more efficient, more contented and more enlightened. The land systems in India have had a long evolution; there are diversities and complexities as between the different parts of the country. The methods of reform will have to take all these into account. But there can hardly be any doubt that so long as the ownership, distribution and utilisation of land are not so planned as to make for economical cultivation, other reforms can hardly help the agriculturist except perhaps in a small way.

For voicing the grievances of our industrialists and businessmen there are Chambers of Commerce and Industry, Millowners' Associations and the like, which make suitable representations to Government from time to time and manage to get a hearing. Our rural masses are truly dumb. Their sufferings may be a fruitful source of sporadic agrarian riots or smouldering discontent, but there is no definite organisation of peasants themselves to mobilise knowledge, create and educate public opinion and lay down policies in the interest of an ordered growth and reconstruction. A rural reform programme must therefore include the promotion of peasants' organisations and the training of leaders from among the villagers.

A word now about the object of this study which is the first publication under the auspices of this Society. The object of this study is to review the Indian Rural Problem in its general aspects, so as to enable us to visualise it as a whole and to sketch out the general lines of the policy which the State must follow. If it is true to say "Industrialise or Perish," it is equally important also to remember that we have to modernise, rehabilitate, revitalise and rebuild our rural economy in harmony with the needs of the economy as a whole.

Indian public opinion now thinks in terms of a country-wide all-embracing planning, but we have not attempted to offer in this book anything like a definite Plan for Agricultural Development. That task requires the co-operation of experts from different fields, and one cannot think of a plan for Agriculture apart from a plan for Industries, Communications, Housing, Electrical and Engineering Development, Education, Social Services, etc. In any case, we hope, we have made in the course of this study a number of suggestions which will be useful to any representative and authoritative body which takes up the task of formulating a proper plan. We should only add here that perhaps the most essential part of any plan is the personnel. However sound a plan may be on paper, it cannot reach fulfilment unless its operation is in charge of the right kind of personnel. For this reason, we have laid ample stress on administrative reform and on the need for revitalising village life through appropriate agencies and institutions. This work can begin and ought to begin right now. "Full-dress" planning may have to wait till we have a national Government at the Centre but there are many problems in respect of which it is possible for, nay incumbent on, the present Government of India to take the initiative. Some of the Provincial Governments have already started building up Post-war Reconstruction Funds, and if the Government of India help them with suitable grants-in-aid and technical advice, beginnings in the right direction can be made at an early date.

This volume is divided into three parts. Part I states concisely the facts of the situation. In this part comment is eschewed or reduced to the minimum. Part II reviews the activities of the various Government Departments and public and semi-public bodies, and attempts to assess the adequacy or otherwise of the work so far done. In Part III are set out the essentials of a proper policy, embracing not merely economic but, of necessity, the broader sociological aspects of the rural problem. The approach adopted here is more practical than academic, and the suggestions made are born of the varied personal experience of one of us. There are possibly some important topics which we have left out, but that perhaps is inevitable when we are dealing with a problem so vast and intricate. To be able to do justice to many of these problems, a much more intensive study is necessary than we have undertaken here. The present volume is thus a sort of general introduction to the other more specialised studies planned to be undertaken in course of time by this Society.

Our thanks are due to Professor C. N. Vakil, Director of the University School of Economics and Sociology, University of Bombay for placing at our disposal all the facilities for research available in the institution and for also having lent us, when necessary, the assistance of his research staff. We are also grateful to the Reserve Bank of India for similar help. They have given us ready access to the books and other material available with them. The office staff of this Society has, of course, borne their share of the burden of collecting the necessary data and preparing notes on the various topics dealt with in this volume. They have also done the arduous work of going through the proofs. Mr. B. S. Mavinkurve, who has been with us from the time this work was commenced, has rendered valuable assistance at all stages, and Mr. S. Thotapalli has also not spared himself, though he joined us later, and had other work to attend to. To both these men our cordial thanks are due.

Bombay, M. B. N.
April, 1944. J. J. A.

CONTENTS

PAGE

FOREWORD v

PREFACE vii

INTRODUCTION 3

PART I

CHAPTER

I. ENVIRONMENT AND AGRICULTURAL RESOURCES 25

Physical Features — Rivers — Climate — Rainfall — Rainfall and Agricultural Success — Rainfall and Famine — Soils — Forest Resources — Water Power Resources — Livestock Resources — Other Livestock — Poultry — Fisheries — Land Utilization — Distribution of Sown Area — Crop Production — Food Crops and Non-Food Crops — Extension of Cultivation.

II. POPULATION 54

Size of the Population — The Growth of Population — Population Growth and Industrialisation — Industrial Distribution of Workers — Density of Population — Urbanisation — Age Distribution and Prospective Growth — Projections of Population: 1976 — Health and Efficiency — Family Planning — Conclusion.

III. FOOD SUPPLY AND NUTRITION 72

Historical — Effects of World War II — Bengal Famine — Effects of Partition — Current Nutrition Situation — Under-nutrition — Malnutrition — Evolution of Food Policy — Grow More Food Campaign — Food Supply under the Plans — Future Prospects.

IV. AGRICULTURAL PRODUCTION 92

Trends in Agricultural Production — Growth Rates under the First and the Second Plan — Foodgrains and Non-Foodgrains Production — Regional Variations in Production — Yield Trends — Agricultural Production in Other Countries — Conclusion.

V. CROP PRODUCTIVITY — PROBLEMS AND PROGRAMMES FOR IMPROVEMENT 105

Improved Seeds — Multiplication and Distribution of Improved Seeds — Control of Pests and Plant Diseases — Irrigation — Evolution of Government Policy — Progress in Irrigation — Soil Conservation — Manures and Fertilizers — Agricultural Implements — Supply of Agricultural Machinery and Improved Implements — Cultural Practices — Intensive Agricultural District Programme — Progress of Technical Research — Organisation of Research — — Agricultural Extension — Organisation for Extension.

VI. ANIMAL HUSBANDRY 139

Livestock in Farm Economy — Draught Power — Determinants of the Draught Power — Farmyard Manure — End-products of the Carcasses — Animal Husbandry Practices — Improvement Measures — Livestock Policy in India — Cattle Breeding Policy — Cattle Insurance — Animal Husbandry Programmes under Community Development Schemes — Research and Education — Dairy Development — Other Development Schemes — Conclusion.

PART II

VII. EVOLUTION OF INDIAN AGRICULTURAL POLICY 163

Traditional Agriculture in India — Beginnings of Agricultural Policy — Dr. Voelcker's Report — Agricultural Policy Upto 1905 — World War I and Agricultural Policy — Progress Since 1919 — Royal Commission on Indian Agriculture (1928) — Depression — India and the Depression — Government Measures in India — World War II and Indian Agriculture — Effect on Crop Pattern — Price Trends — Place of Agriculture in Five-Year Plans.

VIII. LAND TENURE AND LAND REFORMS 185

General Considerations — Evolution of the Land Tenure Systems — The Permanent Settlement — Zamindari — In Other Parts of India — Abandonment of the Permanent Settlement — The Mahalwari System — The Ryotwari System — Decay of the Village Community — Tenancy Problem — Tenancy Legislation — Pre-Independence Legislation and Congress Agrarian Reforms Committee — First Five-Year Plan — Zamindari Abolition — Tenancy Legislation — Ceiling on Holdings — Co-operative Farming and Future Agrarian Pattern — Review of Progress — Abolition of Intermediaries — Compensation — Tenancy Reform — Regulation of Rent — Security of Tenure — Ownership for Tenants — Ceiling on Land Holdings — Level of Ceiling — Transfers — Compensation for Acquisition of Surplus Lands — Conclusion.

IX. SIZE OF HOLDINGS AND PATTERN OF LAND TENURE 220

Size of Holdings — Distribution of Holdings — Pattern of Ownership and Tenancy — Sub-Division and Fragmentation — Consolidation of Holdings — Review of Legislative Measures — Legislative Provisions —Prevention of Fragmentation — Cost of Consolidation — Progress of Consolidation.

X. COMMUNITY DEVELOPMENT AND PANCHAYATI RAJ 239

Community Development — Concept and Approach — Earlier Attempts — Basic Principles — Community Projects — National Extension Service — Integrated Block Pattern — The Training Programme — Achievements and Results — Coverage — Physical Achievements — Co-ordination of Developmental Administration — Conclusion: An Assessment — Panchayati Raj — Panchayats — Decentralisation Commission, 1909 — Village Panchayat Legislation — Village Panchayats After Independence — Problems of Reorganisation — Democratic Decentralisation — Progress — Coverage by Panchayats — Sources of Income — Higher Bodies — Progress — Panchayati Samitis — Zila Parishad — Conclusion.

PART III

XI. AGRICULTURAL PRICES AND PRICE POLICY 269

Trends in Agricultural Prices — Agricultural and Non-Agricultural Prices — Factors Influencing Prices — Agricultural Price Policy and Measures — Foodgrains — State Trading in Foodgrains — The Marketing Zones — Measures for Non-Foodgrains — Recent Measures: Incentive Prices and Food Corporation of India — Agricultural Prices Commission.

XII. AGRICULTURAL FINANCE 290

Government Finance for Agriculture — Moneylender Finance — Restrictions on Transfer of Land — Deccan Agriculturists' Relief Act — Regulation of Moneylending — Regulation of Interest — Moratorium — Conciliation of Debts — Defects in Working — Compulsory Scaling Down of Debts — Other Measures — Limitation of Debt Legislation — Effects of Debt Legislation.

XIII. THE ROLE OF CO-OPERATION 320

Policy Developments — Implementation and Progress — The Role of the Reserve Bank of India in Co-operative Credit — The State Bank of India and Rural Credit — Warehousing Development — Structure of and Trends in Co-operative Credit — State Co-operative Banks — Central Co-operative Banks — Primary Agricultural Credit Societies — Land Mortgage Banks — Agricultural Refinance Corporation — Marketing Societies — Policy and Development — Non-Credit Co-operation — Co-operative Farming Societies — Irrigation Co-operatives — Milk Co-operatives — Fisheries Societies — Crop Protection Societies — Weavers Co-operatives — Targets and Achievements during Plan Periods.

XIV. AGRICULTURAL MARKETING, PROCESSING AND WAREHOUSING 370

Introduction — Market Functionaries — Assembling —Village Sales — Malpractices — Marketing Cost — Regulated Markets — Review of Legislation — Salient Features — Progress — Working — Co-operative Marketing — Financial Resources — Working of Societies — Interlinking of Credit and Marketing — Co-operative Processing — Warehousing and Storage — Conclusion.

PART IV

XV. AGRICULTURAL TAXATION 403

Land Revenue — Ancient and Mediaeval Systems — Assessment under Permanent Settlement — Assessment under Temporary Settlement — Assessment under Ryotwari — Assessment under Mahalwari — Basis of Land Revenue Assessment — The Taxation Enquiry Commission's Recommendations — Standardisation of Assessment — Revision in Settlement — Sliding Scales and Surcharges — Recent Developments — Progress in Land Revenue Collection — Agricultural Income-tax — Receipts from the Agricultural Income-tax — Irrigation Rates and Betterment Levy — Rationale of Irrigation Rates — Methods of Water Rate Fixation — Revision of Existing Rates — Need to Link Water Rates with Other

Agricultural Taxes — Betterment Levy — Conclusion.

XVI. FOREIGN TRADE IN AGRICULTURAL COMMODITIES 443

Trends in Exports and Imports of Agricultural Commodities — Balance of Trade — Domestic Production and Imports — Composition of Exports and Imports — Direction of Foreign Trade — Obstacles to Agricultural Exports.

XVII. AGRICULTURAL LABOUR AND RURAL EMPLOYMENT 457

Surplus Population — Concept and Emergence — European Experience — Changes in Occupational Structure — Agricultural Labour — Historical Background — Agricultural Labour Enquiry: 1950-51 and 1956-57 — Conclusion — Employment and Development Planning — Approach to the Problem — Employment Position in the Second Plan — The Third Plan — Intensive Agriculture — Village and Small Industries — Industrial Estates — Rural Industries Planning Committee — Mobility of Labour and Regional Development — Surplus Labour as Potential Savings — Utilisation of Rural Manpower — Progress in the First and Second Plans — Rural Works Programme — Summing Up.

XVIII. RURAL ENGINEERING 484

Mechanical Engineering — Civil Engineering — Irrigation — Rural Roads — Road Communications before the First Five-Year Plan — Achievements in the First Decade of Planned Development — Objectives and Priorities of Road Development in the Third Plan — Rural Road Development in the Third Plan — Type of Road Suitable for Villages — Problem of Realignment — Financing of Village Roads: Rural Road Fund — Sanitary Engineering — Housing Problems in Villages — Progress During the Five-

Year Plan Periods — Working of the Rural Housing Scheme — Designing of Rural Houses — Village Water Supply — Electrical Engineering — Government Policy — Progress of Rural Electrification — Obstacles to Rural Electrification.

XIX. SOCIAL SERVICES 519

Extension of Social Services — Health Services and Medical Relief — Health Programmes — Education — Social Education.

PART V

XX. THE INDIAN RURAL PROBLEM — A REVIEW 535

The Rural Economy — Rising Population Growth — The Rural Social Structure — Reform of the Land System — Policy for Development.

XXI. OBJECTIVES, TECHNIQUES AND ACHIEVEMENTS OF INDIA'S PLANS 547

Objectives — Types of Planning — Preamble of the Constitution — Directive Principles of State Policy — The Planning Commission — Perspective of Plans —Agriculture in the First Two Plans — Agriculture in the Third Plan — Techniques of Agricultural Planning — Price Policy for Agriculture — The Tasks Ahead.

SELECT BIBLIOGRAPHY 565

INDEX 584

LIST OF STATISTICAL TABLES

Page

1. Famine and Mortality in India, 1800-1950 31
2. Quantity and Value of Forest Resources, 1949-50 and 1958-59 37
3. Land Use in the Indian Union, 1949-50 and 1958-59 47
4. Crop Pattern in the Indian Union, 1961-62 49
5. Growth of Population in India, 1901-1961 55
6. Average Annual Birth and Death Rates, 1901-1961 56
7. Percentage Distribution of the Working Force in India and in Rural and Urban Areas, by Industrial Category and Sex, 1961 58
8. States showing a Rate of Growth of 40 per cent or more than that between 1941-51 62
9. Trend in Urbanisation, 1881-1961 63
10. Estimates of Population Growth for 1966, 1971 and 1976 66
11. Expectation of Life, 1911-1961 68
12. Imports and Exports of Foodgrains, 1920-21 to 1939-40 74
13. Per Caput Daily Food Supplies for India during 1956-59 77
14. Comparison between a Balanced Diet and the Actual Food Intake in India 78
15. Calorie and Protein Supply by Expenditure Level, Maharashtra, 1958 79
16. Achievements and Targets of Additional Production Under the G. M. F. Campaign, 1947-48 to 1950-51 84
17. Foodgrains Production and Targets, 1950-63 85
18. Index Numbers of Agricultural Production in India, 1950-63 93
19. All-India Linear Rates of Growth in Agriculture, 1952-53 to 1961-62 95
20. Annual Average Percentage Increase or Decrease in Production, Area and in Productivity of Important Crops in the First and the Second Five-Year Plans 96
21. State Linear Rates of Growth of Agricultural Production during 1952-53 to 1961-62 99

22. Average Yield per Acre (in lbs.) of Rice and Wheat 101
23. Linear Growth Rates of Agricultural Production in Different Countries of the World, 1952-53 to 1961-62 103
24. Estimated Area under Improved Seeds for Different Crops in 1957-58 108
25. Progress of Irrigation (Major and Medium Schemes) during the Five-Year Plans 114
26. Production, Imports and Distribution of Chemical Fertilizers, 1952-62 122
27. Use of Improved Implements and Agricultural Machinery in India, 1961 126
28. Production of Agricultural Machinery 127
29. Variation in the Number of Bovine Animals during the Decade 1951-61 142
30. Per Capita Consumption of Nutritive Articles in Different Countries 143
31. Number of Cultivable Land per Draft Animal and per Tractor, 1951-61 145
32. Index Numbers of Wholesale Prices in India during World War II 176
33. Average Size of Cultivated Holding in India 221
34. Cumulative Percentage Distribution of Operational Holdings and of Area 222
35. Percentage Distribution of Cultivating Households and Cultivated Area by Interest in Land in Rural Areas, 1960-61 224
36. Estimated Number of Parcels and Its Average Area by Size-Group of Operational Holding, 1959-60 — All-India 227
37. Cost of Consolidation 234
38. Progress of Consolidation of Land Holdings up to end of March, 1962 235
39. Extent of Area Consolidated, 1961-62 237
40. Coverage by Panchayats 259
41. Index Numbers of Wholesale Prices of Important Agricultural Commodities, 1953-54 to 1963-64 270
42. Index Numbers of Wholesale Prices — By Groups, 1953-54 to 1963-64 272
43. Index Numbers of Wholesale Prices of Agricultural and Non-Agricultural Commodities, 1950-61 274

44. Loans and Advances to Agriculturists, 1948-49 to 1960-61 292
45. Overdues Position, 1958-59 to 1960-61 293
46. Area Mortgaged by Agriculturists, 1902-06 to 1931-36 301
47. Proportion of Mortgage Debt to Total Agricultural Debt in Some of the Provinces 302
48. Maximum Rates of Interest Allowed 305
49. Short Term Loans from the Reserve Bank to State Co-operative Banks for Seasonal Agricultural Operations and Marketing of Crops 330
50. Medium Term Loans from the Reserve Bank for Agricultural Purposes 331
51. Reserve Bank's Subscription to the Debentures of Land Mortgage Banks 332
52. Long-Term Loans from the Reserve Bank to State Governments for Contribution to the Share Capital of Co-operative Credit Societies 333
53. Reserve Bank Credit to Co-operatives, 1963-64 335
54. Financial Assistance provided by the State Bank of India to Co-operative Institutions as on September 30, 1964 339
55. Working Capital of State Co-operative Banks 343
56. Loans Outstanding of State Co-operative Banks 344
57. Working Capital of Central Co-operative Banks 346
58. Loans Outstanding of Central Co-operative Banks 347
59. Working Capital of Primary Agricultural Credit Societies 349
60. Primary Agricultural Credit Societies — All India Averages 350
61. Primary Agricultural Credit Societies — Credit Operations 351
62. Financial Position and Loan Operations of Land Mortgage Banks 353
63. Assembling Agencies (Rice) 371
64. Marketing Cost of Wheat (as percentage of Consumer's Price) 376
65. Average Market Charges on Paddy 377
66. Marketing Charges in Guntur Market (Andhra Pradesh) 378
67. Regulated Markets in India 381

8. Working of Marketing Co-operatives (including Sugarcane Societies): 1957-58 and 1962-63 385
9. Loan Assistance provided by the National Co-operative Development Corporation: 1963-64 396
0. Number and Capacity of Central and State Warehouses 397
1. Receipts from Land Revenue as a Proportion of Total Revenue (Centre and States), 1793-94 to 1938-39 419
2. Land Revenue Receipts for All States: 1950-64 420
3. Receipts from Agricultural Income-tax, 1950-64 427
4. Share of Agricultural Commodities in Total Exports of All Merchandise by Sea and Air: 1949-50 to 1960-61 444
5. Share of Agricultural Commodities in Total Imports: 1948-49 to 1960-61 445
6. Agricultural Exports and Imports: 1950-51 to 1960-61 446
7. Domestic Production and Imports (and Exports) of Some Important Agricultural Commodities: 1950-51 to 1961-62 447
8. Percentage Share of Individual Commodities and Groups in the Total Agricultural Exports: 1950-51 to 1960-61 450
9. Percentage Distribution of the Agricultural Imports among Different Commodities or Groups: 1950-51 to 1960-61 451
0. Share of Different Countries in India's Export Trade in Agricultural Commodities 454
1. Percentage of Working Population in Different Industries 460
2. Classification of Workers, 1962 — All-India 461
3. Towns and Villages Electrified in India 513
4. Electricity Consumption for Irrigation during 1955-61 513
5. Expenditure on Social Services, Indian States, 1950-64 520
6. Ratio of Medical Facilities to Population in 1946 and 1960 in India 522
7. Progress of Education during the Five-Year Plans 526
8. Agricultural Production: First Five-Year Plan 553
9. Agricultural Production: Second Five-Year Plan 555
0. Agricultural Production: Third Five-Year Plan 558

PART I

CHAPTER I

ENVIRONMENT AND AGRICULTURAL RESOURCES

The Indian sub-continent is well marked off from the rest of Asia by mountains and the sea, which give the country an unmistakable geographical unity. Bounded by the Himalayas in the north, the country stretches southwards and at the Tropic of Cancer tapers off into the Indian Ocean between the Bay of Bengal on the east and the Arabian Sea on the west. Lying entirely in the northern hemisphere, the mainland extends between latitudes 8°4′ 28″ and 37° 17′ 53″ north and longitudes 68° 7′ 33″ and 97° 24′ 47″ east, measures about 2,000 miles from north to south and about 1,850 miles from east to west and covers an area of 12,61,411 sq. miles. Measured by the extent of its territory, India is the seventh largest country in the world. It has a land frontier 9,425 miles long and a coast line of 3,535 miles.

The Himalayas generally form India's northern boundary beyond which lies China. The Kingdom of Nepal, and Sikkim and Bhutan States bordering India on the north and north-east, cover a portion of the Himalayan region. A series of mountain ranges in the east separate India from Burma. In the east lies East Pakistan surrounded by the States of West Bengal and Assam and the Union Territory of Tripura. In the north-west. West Pakistan and Afghanistan border on India. In the south, the Gulf of Mannar and the Palk Strait separate India from Ceylon. The Andaman and Nicobar Islands in the Bay of Bengal and the Laccadive, Minicoy and Amindivi Islands in the Arabian Sea are parts of the territory of India.

PHYSICAL FEATURES

The mainland comprises three well defined regions: (i) the great mountain zone of the Himalayas, (ii) the Indo-Gangetic Plain and (iii) the Southern Peninsula.

The Himalayas comprise three almost parallel ranges interspersed with large plateaus and valleys some of which, like the Kashmir and Kulu Valleys, are fertile, extensive and of great scenic beauty. Some of the highest peaks in the world are to be found in these ranges. The mountain wall extends over a distance of about 1,500 miles with a varying depth of 150 to 200 miles. In the east, between India and Burma and India and Pakistan, the hill ranges are much lower. The Himalayan ranges exercise a dominating influence both on weather and vegetation of the country.

The Indo-Gangetic plain, 1,500 miles long and 150 to 200 miles broad is formed by the basin of three distinct river systems, the Indus, the Ganga and the Brahmaputra. It is one of the world's greatest stretches of flat alluvium and also one of the most densely populated areas on the earth. The Peninsular plateau is marked off from the Indo-Gangetic plain by a mass of mountain and hill ranges, varying from 1,500 to 4,000 ft. in height. The more prominent among these are the Aravalli, Vindhya, Satpura, Maikal and Ajanta. The Peninsula is flanked on one side by the Eastern Ghats, and on the other by the Western Ghats. Between the Western Ghats and the Arabian Sea lies a narrow coastal strip, while between the Eastern Ghats and the Bay of Bengal there is a broader coastal area. The southern point of the plateau is formed by the Nilgiri Hills where the Eastern and the Western Ghats meet. Even these main regions contain a multitude of distinctive divisions within themselves determined by the factors of climate, soil and hydrology. Underlying the physiography of India is one great common factor, namely, the rhythm of the monsoonal year.

RIVERS

The Indo-Gangetic Plain is traversed by two great river systems, one comprising the five Western rivers which gave the Punjab (of the undivided India) its name and the other of seven Eastern rivers including the Ganges and the Jumna. The Peninsula in the South is drained by seven main rivers including the Godavari, the Krishna and the Mahanadi. There is a strong contrast between the rivers of the Himalayas and those of the Peninsula. Erosion is extremely active in respect of the Himalayan rivers. They also bring down vast quantities of silt. Most important of all, the rivers in the north flowing down from the Himalayas are not dependent on the monsoon rainfall alone for their water-supply. The melting of the snows makes the rivers perennial. This is all the more valuable as it comes at the height of the hot weather — February to April — when the Peninsular rivers are at the lowest. By contrast, the Peninsular rivers depend for their water-supply entirely on rainfall which is concentrated in 5 or 6 months of the year. They flow in torrents during the monsoon causing frequent floods but shrivel up in the hot weather and are almost dry. Hence they are less useful for irrigation than the rivers of the North. Where irrigation is possible they need a proportionately much greater capital expenditure for the construction of barrages and reservoirs. Thus, large-scale river irrigation was almost confined to the deltas of the East Coast. Hydro-electric locations were also rarer in the Peninsula.

CLIMATE

India is pre-eminently a land of tropical monsoon climates.[1] Though the continental climatic variations affect the upper air. the land is sufficiently massive to develop its own individual system of monsoons. The Indian Meteorological Department recognises four distinct seasons: (i) the cold weather season (December - March); (ii) the hot weather season (April - May); (iii) the rainy season (June - September); and (iv) the season of the retreating south-west monsoon (October - November). From June to September, the flow of winds is generally from the sea to the land and the season is one of high humidity, clouds and rain. Based on these climatic variations, there are two main agricultural sowing seasons: namely, June - July and October - November.

"In all that depends upon climate the different parts of India exhibit very great diversity . . . . the term *Indian climate* means little more than that, on a general average of the year, the sun is higher in the heavens and the temperature some degrees greater, than in Europe."[2] In the northern region, Assam in the East and Rajasthan in the West present a contrast of dampness and dryness greater than that shown by the British Islands and Egypt. Again in the Punjab, the continental climate has a pronounced influence with extremes of heat and almost freezing winter cold, while in Travancore in the South an almost unvarying heat with great humidity prevails throughout the year. Over most of India, the cold weather is almost rainless, except for occasional late monsoon storms. Except in the North-West, where June is the hottest month and July only 2-4°F lower, mean temperatures in the rains are nearly everywhere distinctly lower than in May. Even where there is little rain, there is generally a good deal of cloud and the lower temperatures are offset by higher humidities.

---

[1] In meteorological literature the word 'monsoon' refers to the great air currents of winter and summer, the north-east and south-west monsoons respectively. The use of these directional terms is however not appropriate to the winds over India. Possibly the usage is a hang-over from the old sailing ship days. *Cf.* O. H. K. Spate: India and Pakistan -- A General and Regional Geography (1954), p. 41.

When the climate of India is described often as sensible. the reference is to weather rather than to climate. The regularity of the occurrence of these weather conditions makes for an easier adjustment of physiological and social factors in India. On the whole, for most people. "it isn't the heat. it is the humidity that counts."

RAINFALL

By far the greater portion of rainfall in India is under monsoonal dominance. The south-west monsoon from June to October accounts for nearly 75 per cent of the country's total annual rainfall and is the chief source of water-supply for most of the Peninsular areas and over almost the whole of North-India. The retreating monsoon brings heavy rainfall to the south-eastern portion of the Peninsula between October and December. The areas in Madhya Pradesh and Hyderabad also receive during this season a few showers which are of great value to the wheat growing districts in these regions. Though winter is usually without rain over most of India, some parts of the extreme North-western districts receive some rains during this season. The cold weather rain, though not heavy, is important as the winter crops, especially wheat and barley, depend largely upon it.

---

[2] *Vide* H. F. Blandford: The Climates and Weather of India, Ceylon and Burma (1889), pp. 96-97.

The monsoon rainfall varies as between the different parts of the country. The normal annual rainfall is 106.6 centimeters (42 inches) but regional contrasts in precipitation are most striking. Cherrapunji in Assam receives an annual average of 1,087 centimeters (428 inches) while parts of Rajasthan get less than 18 centimeters (7 inches). The amount of rainfall is below 50 centimeters (20 inches) over a large part of Central India and East of the Peninsula. The pattern of distribution varies considerably even over short distances in accordance with local topography and the location of the place *vis-a-vis* the two great branches of the monsoon.

Broadly speaking, India has a cycle of 5 years in which one year is good, one bad and three are indifferent. A recent study after investigating the movement of the agricultural income series for India (1900-1950) came to the conclusion that "there is some evidence of a regular six-year cycle."[3] The variability of rainfall largely determines the productive efficiency in agriculture. It is obvious that the usefulness of the rainfall in India for agriculture and for hydro-electric development is limited by its concentration over 5 months. Taken as a whole, agriculture in areas with under 38 to 50 centimeters (15 to 20 inches) rainfall is practically entirely dependent on irrigation. Intensive cultivation in these areas demands very expensive major irrigation works. Only areas which have over 115 to 127 centimeters (45 to 50 inches) of rain are normally free from drought. The timing and the intensity of the early rains have also a determining influence on harvest. Even if the total rainfall received in a given year is satisfactory, if the periodical distribution is not even, especially when the rains are late, the harvest may be poor. Gujarat, the eastern U.P. and parts of Bihar are particularly liable to such risks.

An analysis of the distribution of rainfall in India made for the period between 1900 and 1950 brings out clearly that the monsoon rainfall was more frequently below normal in regions of low rainfall like the Western Rajasthan, the eastern U.P. and the southern Madras and above normal in regions which receive the average rainfall between 63 and 76 centimeters (25 and 30 inches) like the eastern Rajasthan, the western Madhya Pradesh and Gujarat. It is on account of this aspect of seasonality that Indian agriculture has been described as 'a gamble in rain.' In consequence of this character of rains in India, in common with tropical regions generally, rainfall is less penetrating in proportion to its quantity than in countries where much of it falls gently and spreads more evenly allowing time for its absorption by the ground.

---

[3] (Mrs.) Vatsala Mukerji, "Some Regression Models Fitted to the Agricultural Income Series for India," *Artha Vijnana*, Vol. 3, No. 1, March, 1961, p. 66.

Rainfall and Agricultural Success

The data on rainfall do not provide a dependable indication of the success or failure of the agricultural season. A study on the subject for the Deccan region for the years 1865-1938 leaves unanswered the question: "How far is the actual amount of effective rain reflected in the success of the agricultural season in the areas under study?"[4] It is difficult to determine the success of a season by reference to the total effective rainfall or the rainfall in any part of the season. From the case study of Deccan. it appears that in all cases, beyond effective rainfall of 71 centimeters (28 inches) per annum, a further increase does not automatically increase the agricultural success of the season. The early rains have some importance only to *kharif* crops. The rains in July provide little or no guide to crop prospects. There is evidence that abnormal rains in July may also be injurious to crop cultivation. It is on the basis of rainfall after the end of August that the closest relationship between rainfall and agricultural success can be established. On the whole, however, it will be hazardous to correlate the success of an agricultural season with the total effective rain in any particular part of the year. The inference is that instead of taking the rainfall itself as the means of judging the effect of rainfall on agriculture. if the period of the wetness of the soil above certain standards is taken as the basis, a closer correlation is possible.[5]

Rainfall and Famine

In India, failure of rainfall has been associated with famine conditions. Till the first decade of this century, the failure of agriculture resulted in a heavy toll of human lives.[6] Table I gives the incidence of famines.

---

[4] Harold H. Mann: Rainfall and Famine — A Study of Rainfall in the Bombay-Deccan, 1865-1938 (1955).

[5] *Ibid*., pp. 33-39.

TABLE I

FAMINE AND MORTALITY IN INDIA. 1800-1950

Period	Number of Famines	Estimated Mortality (in million)
1800-1825	5	1
1825-1850	2	0.4
1850-1875	6	5
1875-1900	18	26
1900-1925	17	4.08
1925-1950	13	1.5@
	61	38.7

* Data do not include the high mortality rates reported in 1901 Census Report for the Central India States of Malwa Agency. Bhopal, Indore Agency, Bhopawar and Indore Residency

@ Relates to the Bengal Famine of 1943.

As a result of the development of transport facilities and the more effective organisation of relief measures during periods of famine, the loss of human lives has been greatly reduced. A famine is now characterised more by a scarcity situation which implies shortage of purchasing power among the population than scarcity of food-stuffs available. However, even now such scarcity conditions create intense suffering in the affected areas owing to the low sustaining power of the bulk of cultivators and particularly of agricultural labourers. There are still areas of chronic scarcity conditions in Gujarat, Maharashtra, Rajasthan, Andhra and the East Punjab, extending over 30 million acres.[7]

---

[6] For a connected account of famines and scarcities that occurred in India between the period 1850 to 1945. refer B. M. Bhatia: Famines in India, 1850-1945 (1963).

[7] Refer Report of the Fact-Finding Committee for Survey of Scarcity Areas in Bombay State, 1960, Vol. I (General Report), Government of Maharashtra, (1960).

SOILS

The four main types of soil found extensively over India are (1) the alluvial soil, (2) the black soil, (3) the red soil, including red loams and yellow earths, and (4) laterite and lateritic soils Besides, there are mountain and hill soils. deseit soils, saline and alkaline soils, peaty and other organic soils

The alluvial soil is formed of a fine sediment carried down from the mountains by rivers and is very fertile (except for the deficiency of nitrates) as well as light and easily worked These are the most important agriculturally and they cover an extensive tract. In the Indo-Gangetic Plains alone (the whole of which is comprised in this area) they cover at least 300,000 sq. miles, *i e*, little less than 19 per cent of the country's area where some 42 per cent of the population live If we add to this, the alluvial soil area in Madras. Gujarat and Kerala, half or more of the total population lives on alluvial soil With such a long spread and varied sources of formation, the qualities of the soil are far from uniform The variations in fertility are due mainly to factors of water-table, and the presence or absence of calcareous concretions in the sub-soil[8] In general these soils are adequate in lime but the nitrogenous and organic contents are low[9] "Potash is adequate and phosphoric acid, though not plentiful, is generally less deficient than in other soils" On the whole, they contain all the ingredients of fertility, are not too dense in consistency, are naturally drained and lend themselves on this score to extensive irrigation schemes It is therefore, difficult to attribute any special regional crop distribution directly to alluvial soils They provide an excellent media on which crops suited to the climate and aided by irrigation, whether by wells or canals can grow effectively Sugarcane and rice are the main crops of these tracts

The black soil is most typically developed in the Deccan but is not entirely confined to this area The soils are of varying quality and are found especially in the South and the south-east Madras and in extreme south-east (Tirunelveli) The alluvial belt of Gujarat and parts of the Coromandal coast include considerable areas of similar soils In the Deccan, the soil is very deep but, on higher ground, it is thinner and grades into reddish brown or red Over most of this area, cotton and *jowar* are the main crops The black cotton soil is especially suited to the growth of the long-rooted, indigenous cotton plant, though it does not suit the shallow-rooted American cotton

---

[8] *Vide* O H K Spate India and Pakistan, *Op cit*, p 82

[9] It may be said of Indian soils in general that humus (organic matter) and nitrogen tend to be deficient, but that lime, potash and phosphoric acid are usually present in suitable quantities *Vide* J A Voelckei Improvement of Indian Agriculture (1893), Chapter V

The red soils comprise various categories some of which are brown-grey or black There are areas with good loams which respond well to irrigation The mineral deficiencies are the same as for the black soil The whole of Madras, Mysore, south-east Maharashtra and a tract running along the eastern part of Madhya Pradesh, Chhota Nagpur and Orissa contain mostly varieties of red soil The crops that are most suitable for this type of soil are groundnut (the later maturing and bolder seed types) and minor millets, the predominant one being *Ragi* (*Eleusine corana*), a millet confined almost entirely to the south of the country

The laterite soil which is found in Madhya Pradesh, Assam and along the Western and Eastern Ghats is formed by the decomposition of the 'laterite' rocks due to heavy tropical rainfall From an agricultural point of view, the prevailing characteristics of laterite are extreme acidity with an almost complete lack of lime and organic material Where the soil consists of heavy loams and clays and can easily retain moisture, rice can be grown Generally, tea thrives best in these tracts The plantation districts of South India, Bengal and Assam are therefore to be found in this region

Soil and land utilisation survey is most essential not only for improving the efficiency in land use but for increasing crop yields The major handicap in determining a scientific pattern of land utilisation in India is the lack of such a survey At present the information on the various types of soil is being collected by different organisations such as the irrigation departments of various States, by agricultural experiment stations, universities and other institutions These employ different techniques of classification and survey Further, such data are available for limited areas only in different parts of the country Consequently, there is no comparability between the data available The

Irrigation Commission of 1901, the Royal Commission on Agriculture, 1928, the Russell Report, 1936, the Report of the Planning Commission, 1952, and the recent report of the Sub-Committee of the Planning Commission on Natural Resources, have all successively emphasised the necessity for a systematic soil survey of India as an essential preliminary to the development of irrigation and improvement of agriculture

Until recently knowledge of soils in different parts of the country was inadequate and the necessary organisation for soil surveys had not been established Appraisal of soil resources involving survey and classification of soils provides the basis for assessing their potentialities as well as their limitations for effective exploitation and rational land use The main object of soil surveys is to classify and map out the various sorts of soils, to know soil differences and to co-ordinate knowledge of soils with a view to laying down standards of nomenclature, etc With the aid of these surveys it becomes possible to prepare schemes for the better use of land and to plan for soil conservation and irrigation and drainage works In 1955, an all-India soil survey scheme was initiated at the Indian Agricultural Research Institute with a view to carrying out reconnaissance soil surveys leading to correlation of soils of different regions Soil correlation work involves classification and laying down of nomenclature of soils on uniform basis and also the preparation of soil survey reports and soil maps. In the field of soil surveys, State Governments are specially concerned with aspects relating to agriculture, forestry, irrigation, drainage, soil conservation, etc Since there are common soil problems covering more than one State and since all States do not have their own soil survey organisations, it was felt that with a view to co-ordinating work of soils, the best course would be to set up laboratories on regional basis for the major soil groups occurring in India, namely, (1) at Delhi for the Alluvial Soil Regions, (2) at Poona (now at Nagpur) for the Black Soil Region, (3) at Kharagpur (now at Calcutta) for the Red and Laterite Soil Region I, and (4) at Bangalore for the Red and Laterite Soil Region II Three years after its inception the scheme was integrated with the scheme for soil and land use planning drawn up by the Central Soil Conservation Board for the purposes of soil and land use survey in the catchment areas of six major river valley projects, namely, Machkund, Hirakud, Chambal, Bhakra-Nangal Kosi and Damodar, totalling about 78,000 square miles. Surveys in catchment areas aim at classifying lands into capability classes, essentially from the point of view of adopting soil conservation measures with a view to minimising soil erosion, preserving the top soil for cultivation and preventing sediment flowing into storage reservoirs and thus increasing their life Soil conservation work in catchment areas involved detailed surveys of agricultural lands and reconnaissance surveys in other areas The total area to be surveyed is about 500,000 square miles By the beginning of 1961, an area of about 18,000 square miles has been covered by both detailed and reconnaissance surveys undertaken through the all-India scheme Of this area, about 3,000 square miles fall within the catchment areas of the river valley projects Soil conservation organisations in the States have surveyed about 50,000 square miles Under the all-India programme about 23,000 square miles are to be surveyed during the Third Five-Year Plan

India needs a comprehensive land utilisation survey which would take into consideration the problems of soils and reclamation, development of irrigation and water-supply both for crops and men On the basis of such a survey it would be possible to adopt crop planning with reference to the potentialities of each region and also to undertake, as conditions permit, engineering projects which would supply the varied needs of agriculture and rural life It would not, indeed, be possible to adopt any such major plans for areas already intensively used, there would be a number of difficulties in the way especially because of the small size of holdings and the density of the rural population. But with reference to undeveloped regions, the scope for reconstruction work on a land utilisation survey would be immense

FOREST RESOURCES

The total area under forests is estimated in 1958-59 at 130 million acres or 18 per cent of the land area of the country[10] Forests are unevenly distributed, the proportion of forest land varying from about 11 per cent in the north-west to about 44 per cent in the Central region Most of the forest areas are situated in hilly and mountainous areas, the Himalayas and their foot hills and the hilly ranges of Peninsular India (the Western and Eastern Ghats, the Vindhyas, Satpuras and associated ranges) The areas under forests in the Peninsular hills and plateau regions extends over 55 7 million acres, or nearly 31 per cent of the total forest area of the country The high hills are covered with pine, fir and bamboo forests while on lower ground grow trees like teak, sal and babul The major forest products are timber, firewood, round wood, pulp wood, charcoal wood, etc, while the minor products comprise bamboos and canes, drugs, spices, fodder and grazing, gums and resins, lac, rubber and latex, incense and perfumes, fruits, animal products and other miscellaneous materials Table II gives the data on production of the major and minor forest products and also the financial results of forest administration The most advanced countries in the world have very high *per capita* consumption of wood India's *per capita* consumption of round wood is 1 4 c ft as compared with 58 c ft in the U S A The consumption of pulp products is 1 6 lb as against 78 lbs. in the U K The area under forests is less relatively to the consumer requirements of the villages and those of industry and trade *Per capita* forest area is 1 8 and 3 5 hectares in the U S A and U S S R respectively, while in India the figure is 0 2 hectare[11] The National Forest Policy Resolution of 1952 proposed that the area under forests should be raised steadily to 33 per cent of the total area, the proportion to be aimed at being 60 per cent in hilly regions and 20 per cent in the plains The scarcity of forest produce and their gradual inaccessibility to the rural population have been the cause of the widespread habit of using cow-dung as fuel

---

[10] *Agricultural Situation in India*, Vol XVII No 8, November 1962, p 888

Forests are an important source of revenue to the Government They render the climate more equable, absorb excess water during heavy rains and thus lessen the severity, both of drought and flood This emphasises the importance of preserving an adequate proportion of the land area under forests in the interests of agricultural development. It is generally agreed that there has been a reckless destruction of forests in India in the past, over

---

[11] Report on the Second Five-Year Plan, Planning Commission, Government of India (1959), p 299

TABLE II

QUANTITY AND VALUE OF FOREST RESOURCES

	Unit	1949-50	1953-54	1958-59
Production				
Major Forest Produce	in '000 cubic feet	5,34,528	4,37 240	5,88,464
	value in '000 Rs	1,71 648	1 74,558	4,12,136
Minor Forest Produce	value in '000 Rs	56,791	63,077	84,048
				1955-56
Exports				
Major Forest Produce	value in '000 Rs	14,615	29,876	32,200
Minor Forest Produce	value in '000 Rs	45,096	49,950	69,800
Total	value in '000 Rs	59,711	79,826	1,02,000
Imports				
Major Forest Produce	value in '000 Rs	1,41 424	1,53,386	2,14,400
Minor Forest Produce	value in '000 Rs	27,898	24,866	32,800
Total	value in '000 Rs	1,69,322	1,78 252	2,47,200
REVENUE AND EXPENDITURE ON FORESTS				
Revenue	in '000 Rs	2,01,775	2,35,787	3,10,850 (1955-56)
Expenditure	in '000 Rs	88,891	1,13,611	1,36,487
Surplus	in '000 Rs	1,12,884	1,22,176	1,74 363

Source Indian Forest Statistics, 1955-56, Government of India (1961), p ix, and *Agricultural Situation in India*, Vol XI, No 11, February 1957, pp 862-4, and Vol XVII No 8 November 1962 pp 909-10 many parts of the country The depletion of forest resources has deprived the peasantry of the much needed wood for fuel and for building purposes, and exposed agriculture to greater risks of drought, flood and soil erosion It may have also been a factor in the sterilisation of the soil which has been reported of late The scope for extending the forest area under the present pressure of population on cultivated area appears to be limited There is, therefore, need in every State for a well-managed forest conservation and afforestation policy and for the creation of village woodlands and pasture, under a co-ordinated Central Forest Policy

Forest resources appear to have been hitherto utilised as a source of revenue. Forests have an important ameliorating influence on climatic conditions They have been classified by Government as either reserved or protected forests The more urgent problems of providing cheap fuel to the rural population and grazing facilities to their cattle as also the necessity of providing raw materials for various industries have not received sufficient consideration in official planning. The tropical and semi-tropical forests of India hold out great possibilities for starting subsidiary industries such as manufacture of charcoal, extraction of turpentine, lac culture, preparation of dyeing and tanning materials, baskets, rope and mat making and such other occupations which, if well-organized, would confer material benefits on the rural population

WATER POWER RESOURCES

In water power resources India holds the third place, next only to Canada and the United States of America The total annual flow in the rivers is estimated to be equivalent to 1,356 million acre-feet for the Indian Union Of this, only 76 million acre-feet, *i e*, only 17 per cent of the usable flow or 5 6 per cent of the total annual flow had been utilised for purposes of irrigation in 1951 Though there is some improvement in recent years,[12] the sizable portion of the flow still runs as waste into the sea In 1921 a minimum continuous water power potential of 3 5 million kW was indicated by a Committee which investigated the position This is considered as an under-estimate and the total hydro-power potential is placed now between 30 and 40 million kW[13] of which only just over half a million kilowatts has so far been developed The country is thus utilising only about 2 per cent of the total power potential, whereas Germany (East and West) has developed 50 per cent, Switzerland 38 per cent, France 27 per cent, the United States 22 per cent, and the United Kingdom 20 per cent of the national water power resources In the last 21 years since 1939, the total electricity generating capacity in India has increased from about one million kilowatts in 1939 to 5 7 million kilowatts in 1960-61 About 32 per cent of this capacity is in hydro-electric stations In 1950, about 560,000 kW of energy were generated by hydro-electric plants In 1960-61 the principal power schemes brought into service accounted for 1 93 million kW. Regarding consumption capacity, out of 561,107 villages in the country about 23,000 or four in a hundred are served with electricity Moreover, the development is not evenly spread but confined mainly to the States of Mysore, Madras and Uttar Pradesh and is associated with the development of hydro-electric power. The average *per capita* consumption in India was only 25 kilowatt hours (1955-56) per year as compared to 1,100 kWh in the U K , 2,207 kWh in the U S A. and 3,905 kWh in Canada. It has increased to 45 kWh in 1960-61 In a number of States in India the average *per capita* consumption is below one unit per year. Only five States have a *per capita* consumption above the average Besides, the distribution of power is also unbalanced as between urban and rural areas About 3 per cent of the total population of the country concentrated in 6 large towns receive the benefits of 56 per cent of the total public utility installations in electricity. Thus, though India promises to be one of the leading countries of the world in the development of hydro-electric power on account of her untapped resources and potential demand, no thorough survey of these resources has yet been made

---

[12] By the end of the Second Five-Year Plan, it is estimated that about 120 million acre-feet representing about 27 per cent of the usable flow or 8 9 per cent of the total annual flow would be utilised An additional 40 million acre-feet are likely to be used by 1965-66, bringing the proportion to about 36 per cent of the usable flow Report on the Third Five-Year Plan, Planning Commission, Government of India, (1961), p. 380

---

[13] The total power potential includes about 4 million kW from the west flowing rivers, about 7 million kW from the east flowing rivers of the southern region, about 4 million kW from the rivers of the central region and about 20 million kW from the Himalayan rivers. Report on the Second Five-Year Plan (1956), p 331

LIVESTOCK RESOURCES

India has the largest cattle population of any country in the world The total world cattle population in 1960-61 was 932 million[14] In 1961, the total cattle population in India was 176 million There were 51 million baffaloes in the same year The country possesses more than a fifth of the world's cattle. The U.S S R had a total cattle population of 76 million in 1960-61 (nearly just a little over a third of India's total) The U.S A had a total population of 97 million which was more than half of India's total The United Kingdom had only 11 9 million animals (one-fifteenth of the Indian cattle population) Denmark had 3 6 million cattle population[15] While thus India holds a leading position in her cattle resources quantitatively, more than half of this cattle wealth is lost to the country owing to the inferior quality of the animals[16] Inadequacy of grazing facilities, the prevailing religious sentiment against the slaughter of decrepit cattle and absence of selective breeding on a wide scale have been perpetuating the poor species and rendering an increased number of them uneconomic aids to agricultural production[17] The data from quinquennial censuses from 1920 roughly indicate that there has been only a slight variation in the growth, the maximum being 6 per cent The density of cattle per 100 acres of sown area is as high as 68 in India, as against 25 in Egypt, 15 in China and 21 in Japan

---

14 Production Year Book 1962, Vol 16, Food and Agriculture Organization of the United Nations (1963), p 149

15 *Ibid*, pp 159-160

16 The National Income Committee, in their final report (1954), have assumed 55 4% of the cattle population as non-service animals for calculating the income from animal husbandry Final Report of the National Income Committee, p 51 The Cattle Utilisation Committee calculated on an overall estimate that about 11 5 million adult cattle (or 10 per cent of the cattle population) are unserviceable or unproductive

17 Approximately 750 farm-bred bulls of known pedigree are distributed annually by the Governments in different States for developing draft as well as milch cows The existing number of approved bulls meets less than 0 5 per cent of the total requirements of the country — Report on the First Five-Year Plan (1952), pp 274-275

The number of cows was estimated at 54 3 million in 1961 The proportion of cows which yield no milk or are not milked at all is on a conservative basis estimated at 55 per cent. The ratio of dry and other cows which are not in milk to those in milk varies considerably between the different States According to the 1961 Census, while in Orissa, West Bengal, Madras, Andhra Pradesh, Mysore and Kerala, there are about two hundred dry cows for every hundred milch cows over 3 years of age, in Bihar and Madhya Pradesh, the ratio is about equal and it is as low as 62 in Assam and 67 in the Punjab This generally indicates that in the rice belt area and in the South, a comparatively large number of unproductive cows are maintained The normal ratio of dry animals to those in milk should be 1·1. The high proportion in the above regions only imposes a great strain on the country's fodder resources

Regarding the consumption requirements of milk, the average per capita consumption of milk and milk products is 5 5 ounces per day against the standard of 10 ounces per day recommended by nutrition experts. However, the consumption of milk and milk products varies considerably in different parts of the country It is as high as 16 89 ounces in the Punjab and 15 72 ounces in Rajasthan while in Orissa it is as low as 2 64 ounces. Except the States of the Punjab and Rajasthan all the major States are deficient in milk consumption measured by the standard nutrition requirements Cows provide a little less than half and buffaloes a little more than half the total supply of milk The Report on the Marketing of Milk in the Indian Union (1950) gives an average daily production of milk per village at only 2 5 maunds. The effective demand for milk and milk products is found in urban markets only, even though 95 per cent of the milch cattle are in the rural areas where 82 per cent of the population resides Nearly 30 to 40 per cent of the urban milk supply is obtained from villages situated within a radius of 30 miles of the urban areas. As milk is an important item of the vegetarian diet and as a large part of the population is vegetarian, the gap between production and requirements indicates the need for improving the quality of the milch cattle and increasing their production capacity. It is estimated that with the present strength of milch cattle, milk production can be increased by 75 per cent 30 per cent by better breeding, 15 per cent by better feeding, 15 per cent by better management and 15 per cent by disease control

The efficiency of the cattle as draught animals for cultivation and draft purposes is also unsatisfactory The average area now cultivated by a pair of bullocks is 10 2 acres With better breeding, feeding and other methods of improvement, the potential number of acres that can be cultivated is 17 28 acres It is estimated that the maximum that can be achieved and may be taken as the standard is 20 acres[18] This would mean an increase of 60 per cent in work capacity On the basis of the calculations made by Dr Burns, it is estimated that in the Uttar Pradesh and Bihar there is a surplus of about 4 million bullocks This does not imply that there is surplus bullock power in each and every State in India

The adverse climatic and economic conditions possibly explain the low productive capacity of the cattle in India which is not commensurate with their numerical strength In spite of this unsatisfactory position, the livestock products contribute a significant share to the total production capacity of India's agricultural economy The potential value to the nation of developing the animal husbandry and the resulting contribution which it would make to the farmers' income is indicated by the scope for increasing productive capacity of cattle by the use of scientific methods made available by research in animal husbandry The magnitude of the potentiality can be illustrated by the nature of some of the livestock products in demand India is the largest exporter of hides and skins in the Commonwealth region, her products representing half of the total Commonwealth exports India's annual exports of this group of products was estimated at roughly Rs 34 crores in 1962-63 It is significant to note that hides and skins represent only a minor by-product of the cattle industry, still the trade in the products has a great monetary value. Similarly, cattle labour is an important item in agricultural production The farm management studies in different

---

[18] Dr Burns estimated that though the efficiency of the bullocks could be raised to the level of 30 72 acres per pair, it will not be possible, in practice, to utilise the whole of this efficiency as the bullocks will have necessarily to remain idle for a period Technological Possibilities of Agricultural Development in India (1944), W Burns, p 110

States have shown that between 8 and 42 per cent of the costs of cultivation is accounted by cattle labour The total value of cattle labour alone is estimated at about Rs. 300—500 crores[19] The manurial value of cattle dung is also an important factor in maintaining soil fertility at a high level This has yet to be properly estimated

The cattle population in India is excessive and it is among the least efficient in the world Fewer but fitter animals would be the proper objective of policy This objective will be reached only when we eliminate "scrub" cattle and raise the quality of the rest by selective breeding and keep them well fed through the provision of adequate grazing facilities

OTHER LIVESTOCK

India has 40 million sheep or more than one-fourth of the sheep population of Australia (152 million) or more than one and one-fourth that of the U S A (32 9 million) and slightly less than the total number in Argentina (49 million) Indian goats, about 61 million, constitute nearly one-fifth of the number of these animals in the world[20] It is estimated that on an average, about 72 million pounds of wool are produced every year Of this, about one-half is exported as carpet wool from India mainly to the U K and U S A The value of export of wool and of sheep and sheep products was estimated at Rs 26 6 crores in 1959-60 Rajasthan alone contributes nearly one-third to the total production of wool The deficiency in wool production is indicated by the fact that about 15 to 17 million pounds of semi-processed wool are imported,[21] mainly from Tibet

POULTRY

The number of poultry birds in the country has been estimated at 117 million (1961)[22] When compared to the numerical strength of poultry birds in different countries, it appears that India ranks very high among the poultry producing countries of the world But in poultry farming the main factor for improvement is the application of research to increase the quality of the poultry population The ordinary village hen is generally under-sized and is estimated to lay about 50 under-sized eggs in a year as compared to 120 in Western countries[23] By a process of selective breeding, the Indian Veterinary Research Institute has produced a superior strain which would step up the yield by about hundred per cent

---

[19] Reports on Studies in Economics of Farm Management in Different States, Directorate of Economics and Statistics, Ministry of Food & Agriculture, Government of India *Vide* "Role of Cattle in India's Economy," S C Chaudhri and R Giri, *Agricultural Situation in India*, Vol XVIII, No 9, December 1963, p 591

[20] Production Yearbook 1962, F A O , *Op. cit.*, pp 169-174

[21] Report on the Third Five-Year Plan, p 350

[22] The Indian Council of Agricultural Research had estimated the number of fowls alone at 173 million in this country Only the U S A has a larger number of poultry than India

FISHERIES

Fisheries in India constitute an important source of improving the quality of the diet of the Indian population. Even in the present under-developed state, they contribute nearly Rs. 100 crores (1960-61) to the national income[24] The production in 1960-61 was estimated at about 1 4 million metric tons out of which about 70 per cent are sea and estuarine fish and 30 per cent fresh water fish The production rate is only about a quarter of the requirements Madras, Kerala and West Bengal are the three States which account for the major part of the production Regarding the trends in production, though it is estimated that fish production has increased by 27 per cent during the Second Plan period, on the whole there has been a progressive decline in the production of fresh water fish. However, the potentialities in fish production are great The rivers of India and the tropical seas around are a valuable source for a variety of rich edible fish The brackish water lakes and back-waters are also rich in fish The brackish water area is computed at about 1 9 million acres and includes the Chilka Lake covering about 256,000 acres and yielding about 3,000 tons of fish annually. The seas abound in special species of mullet and pomfret, seer, hilsa, mackeral and whiting While the inland waters breed varieties of fresh water fish of which the *rohu,* the *catla* and the *mrigal* are well-known Even the creeks and hill streams contain fair supplies of fish such as mullet, perch and trout Fish is the easiest and cheapest source of proteins and valuable mineral substances and hence the exploitation of fishery resources should materially raise the standard of the people's diet which, at present is highly deficient in necessary proteinous food-stuffs While potentialities of the development of fisheries in India are vast, a 50 per cent increase in fish production over a period of about 10 years is observed to be within the bounds of practical accomplishment.[25] The industry remains in the hands of an illiterate, poor and unorganised section of the people with little practical assistance from the State The number of boats in operation is estimated at only about 70,000 Production per unit of effort is low because the small country craft cannot operate beyond a few miles from the shore and much time is wasted in going to and from the fishing grounds "As in Japan it appears that the general conditions of the industry are such that initiative must necessarily be taken by Government in the uplift and education of the fishing community and the introduction and testing of raw and improved apparatus and methods"[26]

---

[23] Report on the Second Five-Year Plan, p 289

[24] Estimates of National Income, 1948-49 to 1960-61, Central Statistical Organisation, Government of India (1962), p 2, preliminary estimate

LAND UTILIZATION

The official classification of land is made under five categories · (1) forests,[27] (2) areas not available for cultivation,[28] (3) other uncultivated lands excluding current fallows,[29] (4) current fallows,[30] (5) net areas sown[31] Table III indicates the distribution of land in India among the major uses according to the official classification

---

[25] Report on the Second Five-Year Plan, p 292

[26] Indian Year Book, 1942-43, p 606

[27] The forests include all actually forested areas whether State-owned or private If any portion of such land is used for agricultural purposes that portion is excluded from the forest area and included under the appropriate head of cultivated or uncultivated area

[28] This is sub-divided into two classes (i) land put to non-agricultural uses, *i e*, all lands occupied by buildings, roads and railways or under water and (ii) barren and uncultivable lands, *i e* mountains, deserts, etc which cannot be brought under cultivation except at a high cost whether such land is in isolated blocks or even within cultivable holdings

[29] This is sub-divided into three classes (i) permanent pastures and other grazing lands which include all grazing lands whether permanent pastures, medows or not, village common and grazing lands within forest area, (ii) miscellaneous tree crops and shrubs which are not included in the net area sown, as for example, land under casurina trees thatching grasses, bamboo bushes and other fuel groves, (iii) cultivable wastes which include lands available for cultivation whether or not taken up for cultivation or abandoned after a few years for some reason, such lands may be either fallow or covered with shrubs and jungles and may be assessed or unassessed, lying in isolated blocks or within cultivated holdings Land once cultivated but not cultivated for five years in succession is also included in this category

Unclassified Area: Out of the total geographical area of India of 806 3 million acres, the reporting area in 1958-59 was 726 million acres or 90 per cent Thus a total of 80 million acres remained as non-reporting Besides the hill desert and inaccessible areas, the non-reporting areas include those under specialised forms of land tenure which are not reporting because land records are not maintained or are surveyed but remained unestimated

Net Area Sown The net area sown in 1958-59 was 324 million acres (or 40 2 per cent of the land area of the country). The area sown more than once accounted for 48 64 million acres, that is, 15 per cent of the net sown area These two categories together comprise gross area sown, which was estimated at 373 million acres in that year The net area sown has recorded an increase of 41 million acres during the period 1949-50 to 1958-59 Out of this, 14 3 million acres were accounted for by a single State of Rajasthan where the reporting area itself has increased considerably

The significant fact brought about by the size of total cultivated area is the low percentage of areas sown more than once The physical factor of temperature is not unfavourable in India to continuous plant growth On the contrary, it should permit uninterrupted cultivation throughout the year The main limiting factor is the deficiency of moisture The concentration of rainfall in a short period of two to three months in most

---

[30] This is sub-divided into two classes (i) fallow lands other than current fallows which include all land taken up for cultivation but are temporarily out of cultivation for a period of not less than one year and not more than five years The reasons for keeping them fallow may be either (a) poverty of cultivators, (b) inadequate water supply, (c) malarial climate, (d) silting of canals and rivers or (e) unremunerative nature of farming, (ii) current fallows which comprise cropped areas which are kept fallow in the current year

[31] The net areas sown consist of all lands sown with crops or orchards

Vide Indian Agricultural Statistics 1956-57, Vol I (Summary Tables), Government of India (1960), p 142

TABLE III

LAND USE IN THE INDIAN UNION

Classification of Land Area	1958-59		1949-50	
	Area (in thousand acres)	Percentage to classified area	Area (in thousand acres)	Percentage to classified area
Gross area	8,06,270 (100.0)		8,10,800 (100.0)	
Unclassified area	80,159 (9.9)		1,31,600 (16.2)	
Classified area	7,26,111 (90.1)		6,79,200 (83.8)	
Net area sown	3,24,123	44.6	2,83,200	41.7
Fallow lands other than current fallows	30,347	4.2	58,800	8.6
Current fallows	29,423	4.1		
Other uncultivated land excluding current fallows	97,398	13.4	1,15,300	17.0
Not available for cultivation	1,14,713	15.8	1,21,000	17.8
Forests	1,30,107	17.9	1,00,900	14.9
Area sown more than once	48,639	6.7	38,100	5.6
Gross area sown	3,72,762	51.3	3,21,300	47.3
Net irrigated area	73,000	10.0	49,800	7.3

Sources: Agricultural Statistics of Reorganised States, Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India (1956), pp. 14-15 and 34.

Agricultural Situation in India, November 1962, p. 886.

parts of the country makes it difficult for the crop to obtain adequate moisture throughout the year, they have to depend either on irrigation or sub-soil moisture, in both of which India is deficient. The insufficient application of manures and fertilizers is also a contributing factor to the low level of fertility of most of the crop lands reported The scope for increasing the area that can be sown more than once would obviously depend on the speed with which irrigation works are extended and facilities provided for continuous and adequate water-supply and on the measures taken to condition the soil to the normal level of fertility by a judicious application of manures and fertilizers

DISTRIBUTION OF SOWN AREA

The regional variations in the sown area are mainly determined by the physical conditions of climate, topography and soil. The Indo-Gangetic plains and the plains along the East and West Coasts record the highest percentages. As much as 80 to 90 per cent of land is under cultivation in many parts of these plains, on the other hand, the percentage is substantially low, 10 or even lower, in mountainous or arid areas The five States of West Bengal, Gujarat, Maharashtra, Uttar Pradesh and Punjab together account for about 44 per cent of the net area sown in the country though they form only 20 per cent of the total land area The proportion of sown area in these States varies between 55 and 60 per cent The percentage of area sown more than once is also higher in these States than in most other parts of the country, ranging from about 25 in the Punjab to more than 28 in Bihar when compared to the average of 13 for the whole country The proportion of cropped area to the total in the States of Peninsular India is much lower than in the plains and varies from 30 to 50 per cent In Madhya Pradesh, the percentage of cropped land is 40, in Andhra Pradesh 44 and in Madras 53 In mountainous areas and arid zones, the acreages under crops are low ranging between 10 and 20 per cent of the land area In Kutch, the proportion is as low as 7 per cent

CROP PRODUCTION

Food Crops and Non-Food Crops

The relative importance of the main crops in Indian agriculture is shown in Table IV. Food crops including fruits, vegetables, pulses, etc , cover 80 1 per cent of the total cropped area (1961-62) and are primarily grown for consumption within the country Non-food crops include some of the principal cash crops, such as cotton, jute and other oilseeds. The commercial crops of this variety occupy only 19 9 per cent of the cropped area while the plantation crops account for 0 8 per cent of the

TABLE IV

CROP PATTERN IN THE INDIAN UNION 1961-62@

Crops	Indian Union	
	Area in million acres	Percentage to total sown area
Total Food Crops	295 8	80 1
Total Cereals and Millets	223 7	60 6
Rice	83 7	22 7
Jowar	43 1	11 7
Bajra	27 0	7 3
Maize	11 0	3 0
Ragi	5 7	1 5
Small Millets	11 7	3 2
Wheat	33 2	9 0
Barley	8 2	2 2
Total Pulses	58 7	15 9
Gram	24 1	6 5
Tur	5 7	1 5
Other Pulses	29 0	7 9
Sugar	5 9	1 6
Fruits and Vegetables and Spices	5 6*	1 5
Other food crops	1 9*	·05
Total Non-Food Crops	73 3	19 9
Total Fibres	20 9	5 7
Cotton	18 7	5 1
Jute	2 2	0 6
Oilseeds	34 3	9 3
Dyes and Tanning Materials	0 03*	—
Fodder Crops	14 2*	3 8
Plantations	2 8*	0 8
Drugs and Narcotics	1 1*	0 3
Total Sown Area†	369 1	—

@ *Agricultural Situation in India* November, 1962, pp 931-2

* Refers to 1956-57.

† Indian Agricultural Statistics 1956-57, Vol I (Summary Tables) (1960)

area cultivated. Among the food crops, cereals account for 60.6 per cent of the total area and the staple crops, rice and wheat form about 50 per cent of the area under cereals. Despite the decline in the per capita sown area resulting from the relatively faster rate in growth of population, the per capita area under non food crops has increased and has consequently materially reduced the per capita acreage under food crops. However, during the Second World War period there was a large diversion of area from non-food crops to food crops under the regulative measures of the Grow More Food Campaign.[32] Even in the war period, the reduction in the acreage of non-food crops was mainly noticeable in the case of cotton and jute. Other crops showed remarkable stability in maintaining the acreage, while the area under oilseeds actually showed a tendency to increase.

The most important food crop throughout the greater part of India is rice. It is the chief diet of the inhabitants of Bengal, Assam, Bihar, Orissa and Madras. The area under rice is 23 per cent of the total cultivated area yielding a gross output of 33.6 million tons (1961-62). Wheat which has a nutritive value higher than that of rice, has a relatively restricted consumption, and forms part of the usual diet of the people in the northern States of Uttar Pradesh and Punjab and the adjoining tracts. The area cropped under wheat is 33.2 million acres or about 9 per cent of the total area and provides about 11.6 million tons of grain (1961-62). There are several species under the general head of 'millets' which are also consumed by the low income groups of the agricultural population as staple diet. Of this Jowar or larger millet *(Andropogon sorghum)* and Bajra or bulrush millet *(Pennisetum typhoideum)* and *Ragi* or buck wheat *(Eleusine corana)* cover significant acreage. These are comparatively coarse, inferior and cheap grains. The increase in the output of food crops between 1910 and 1951 was in fact under these low nutritious cereals. The production of bajra went up by 101.8 per cent, that of barley by 139 per cent and of jowar by

---

[32] Economic opinion is divided on the issue whether during the war period the diversion from non-food crops to food crops was actually the result of Government measures under the Grow More Food Campaign or the inter-action of normal commercial factors. See V. K. R. V. Rao, "Grow More Food Policy in India" in *The Indian Journal of Agricultural Economics*, Volume IV, No. 1, March 1949, p. 239.

146 7 per cent, while the production of rice during the same period declined by 16 2 per cent and wheat by 39 5 per cent In fact there were violent fluctuations in the production of wheat from 1912 to 1922 and a gradual decline till 1927-28 There has been a slight upward trend only thereafter

Fruits and vegetables are useful protective elements in the diet of the people The area under fruits and vegetables is only 5 6 million acres or 1 5 per cent of the total sown area The climatic diversity however makes it possible to grow several kinds of tropical and semi-tropical fruits in the country In Kashmir, North-western regions and Punjab, apples, peaches cherries and apricots are grown The Madhya Pradesh and to some extent Assam are well known for growing oranges. In the plains of Uttar Pradesh, Bihar and West Bengal, Madras Maharashtra and Gujarat, mangoes and bananas are grown The output of fruits and vegetables increased from about 20,000 tons at the end of the First Plan to about 40,000 tons in 1960-61 and is expected to rise to about 100,000 tons by the end of the Third Plan[33] At the present level of production, the per capita availability of fruits and vegetables is reckoned, at about 1 5 and 1 0 oz respectively These are quite inadequate compared to the minimum nutritional requirement of 3 ozs of fruits and 10 ozs of vegetables per capita

Extension of Cultivation

The extent of the area classed under 'current fallows' and other uncultivated land excluding current fallows' would give an indication of the potentialities for extension of cultivation in India The area under 'permanent pastures' and 'other grazing lands' as well as the area under 'miscellaneous tree crops and groves' may not be available for cultivation However, the area reported under 'culturable waste' and the fallow lands can be brought under cultivation The cultivable waste land is estimated at 110 6 million acres or 15 per cent of the classified area. The proportion of such lands available for cultivation in 1958-59 is as high as 26 8 per cent in Rajasthan, 14.3 per cent in Andhra Pradesh, 10 per cent in Madhya Pradesh, and 6 2 per cent in

---

[33] Report on the Third Five-Year Plan, p 320

Uttar Pradesh According to the Planning Commission, the total area that can be reclaimed from this class is reported to be only 15 million acres of which about two-fifths is in the region of Madhya Pradesh and the remainder, mostly in Rajasthan As regards current fallows, the five States of Andhra Pradesh, Gujarat, Maharashtra, Rajasthan and Bihar record the largest acreage and account for about 60 per cent of land under this class[34]

The Government of India constituted in June 1959, a Committee to make a survey of land classified "as other uncultivated lands excluding fallow lands" and "fallow lands other than current fallows" and to locate areas where large blocks of land are available for reclamation and resettlement The Committee has completed its survey of seven States In these, the area of waste land available for cultivation in blocks of 250 acres or more is reckoned nearly at a million acres. According to the Committee, the existing data are not sufficiently reliable and lands classified as culturable waste at the time of settlement often continue to be shown as such in the revenue records long after they have come under cultivation The Committee has, therefore, recommended that rapid reconnaissance surveys should be conducted for collecting detailed information about the types of waste lands, the ownership of such lands, their availability in sizable blocks and the cost of reclamation measures. To sum up, there are large gaps in the information at present available regarding land resources. To secure quick results it is necessary that land surveys using photogrammetric techniques should be undertaken and data on land use, land improvement, reclamation of water-logged saline and alkaline lands and productivity should be collected in a systematic manner with a view to drawing up further plans

It is difficult to draw any definite conclusion on the scope for extension of cultivation on the basis of the data available At best, the points bearing on this question can only be indicated (i) the possibilities of reclaiming areas for cultivation from unclassified areas (situated mostly in arid, mountainous or other regions of low productivity) are limited, (ii) similarly, there can be no reclamation from the areas classified as 'not available for cultivation,' (iii) there can be no further encroachment in the forest areas as there is a positive need for extending the area under forests than curtailing it, and (iv) under the areas 'other uncultivated lands and current fallows' the actual possibilities are determined by the factor of cost and the provision of irrigation facilities and State aid and disease control In the short-term, it may be possible to reduce the area under current fallows by adopting a better system of rotation of crops Extension of cultivation may also be facilitated by the extension of irrigation and adoption of dry farming system Consolidation of holdings or co-operativization of small farms too may release some land for cultivation of crops Further measures like controlled grazing and soil conservation practices on common village land and village forests may also help to augment the supply of land for crop cultivation However, all these measures put together is not likely to lead to any substantial additions to land under crops

---

[34] It is difficult to determine the extent of lands recorded as fallow due to physical conditions or the nature of farming in the years prior to 1950-51 when the new method of classification has been introduced

CHAPTER II

POPULATION

The significance of population for economic development needs hardly any emphasis. India's population is already rather large in relation to her resources, particularly agricultural land It has also shown a potentiality for a rapid growth in the near future. Obviously, a higher rate of population growth would mean that a larger proportion of a given investment will need to be devoted to the production of essential consumer goods at the expense of investment goods industries, this would result in slowing down the process of development The pace at which the economy will develop seems to be thus conditioned by, among other things, the rate of population growth

The important characteristics of the Indian population may be discussed conveniently under three aspects, namely, the size of the population, its growth rate and its age distribution

SIZE OF THE POPULATION

The population of India, according to the 1961 Census, was 439 million[1] Of the total world population of 2995 million in 1960 no fewer than 1679 million or 56 per cent were in Asia.[2] A large proportion of Asia's millions were distributed in five countries, China, Japan, Indonesia and India and Pakistan, which together accounted for about 1365 million or 45 per cent of the world population As a single country India holds the second place in the world, the population of the People's Republic of China having been estimated as 656 million in 1960 Thus the population of the Indo-Pakistan continent is not very far behind that of China, while in respect of persons per unit of area, this continent is probably more densely settled than any other comparable area in the world Every seventh person in the world is an Indian

---

[1] Including Goa, Daman and Diu

[2] Data for 1960 are United Nation's estimates, see U N Demographic Year Book, 1961

THE GROWTH OF POPULATION

Table I presents the data relating to the growth of population for the Indian Union territory since 1901

TABLE I

GROWTH OF POPULATION IN INDIA 1901-1961

Census year	Population (in millions)*	Increase (+) Decrease (—) during preceding decade (in millions)	Decennial per cent variation
1901	236 3		
1911	252 1	+15 8	+ 5 73
1921	251 4	— 0 7	— 0 31
1931	279 0	+27 6	+11 01
1941	318 7	+39 7	+14 22
1951	361 1	+42 4	+ 13 31
1961	439 2	+78 1	+21 50

* Population figures adjusted to the Indian Union Territory of 1961 for details of limitations etc , see Census of India, Paper No 1 of 1962 1961 Census—Final Population Totals, Government of India (1962)

Thus during the sixty-year period 1901-1961, India's population, not counting Jammu and Kashmir, has increased by more than 84 per cent. While the first twenty-years (1901-21) saw a net growth of only about 5 per cent, the next twenty-years (1921-41) witnessed a growth of about 27 per cent over the 1921 population, and the last twenty-years (1941-61) of about 38 per cent over the 1941 population The Census Commissioner for 1951 called the year 1921 "the Great Divide", implying thereby that it marked a turning point in the history of India's population What India's population was almost stationary during the period 1901-21, increases in subsequent decades were beyond anything previously experienced, particularly the growth rate of more than 21 per cent during the decade 1951-61 has been described as phenomenal On the basis of the average rates of increase, it can be seen that population increased between 1901-21 at the rate of only 3 2 per cent per decade, whereas between

1921-61, the increase was at the rate of nearly 18 7 per cent per decade

The main reason for rapid growth after 1921 is also clear enough Till 1921, the high level of birth rates was also accompanied by relatively high death rates, the latter were a result of famines brought about by crop failures and also the incidence of major epidemics The period subsequent to 1921 is characterised by an absence of such major calamities, partly as a result of substantial reduction in the incidence of famines and partly because of improvements in public health which eliminated the recurrent epidemics After 1921, therefore, a high level of birth rates has apparently been associated with a relatively lower level of death rates thus resulting in a higher rate of increase in population This fact is clearly brought out by the data, presented in Table II, relating to average birth and death rates for inter-censal decades

TABLE II

AVERAGE ANNUAL BIRTH AND DEATH RATES 1901-1961

Decade	Births per 1000 population	Deaths per 1000 population
1901-11	51 3	43 1
1911-21	49 2	48 6
1921-31	46 4	36 3
1931-41	45.2	31 2
1941-51	39 9	27 4
1951-61	41 7	22 8

Population Growth and Industrialisation

The increments in population since 1921 have thus been regarded as startling when compared to previous record. This fact should not, however, lead one to the conclusion that the increase in population has been responsible for economic stagnation of India. For, judged by normal standards, the rate of population growth in India, say, before the inception of planning in 1951, has not been very high. During the period 1921-51 the annual rate of population growth was of the order of 1 25 per cent. It is only during the last decade that the increase of population has been rather high at more than 2 per cent The rate prior to 1951, in fact, is almost comparable to the rate of Western Europe for the last 100 years or so For instance, the increase in England and Wales over the 60 years before 1941 was 44 per cent

According to some scholars, the alarming aspect of the population problem is, perhaps, not so much the absolute increase in the size of population during the first half of this century, but the fact that the increase in population has not been accompanied by an adequate increase in the rate of industrialisation comparable to, say, that of Europe or the U K However, the large absolute increase does have an adverse effect on the man-land ratio in the agricultural sector as well as the country as a whole Further, it becomes a gigantic task to absorb a large number of new entrants into the working force in the non-agricultural sector The high birth rates which have been prevailing in India, as in most other under-developed countries, lead to a "young" population in which the population of working ages tends to be a relatively low proportion of the total, and the burden of dependents tends to be high This latter fact restricts considerably the ability of the economy to generate the savings necessary for rapid industrialisation As a result, agriculture continues to be the chief employer of the working force

INDUSTRIAL DISTRIBUTION OF WORKERS

The preponderance of agricultural employment in India is evident in Table III which shows the distribution of persons working in rural and urban areas and in the country as a whole, by sex, among the different industrial categories These data from the 1961 Census show that nearly 72 per cent of the workers are engaged in agricultural activities or what is called the 'primary sector' In developed countries of the West, on the other hand, this sector employs between 6 and 20 per cent of the total workers

Changes in the definitions and classification adopted in successive censuses render difficult the task of compiling a historical series to compare the industrial distribution of workers over

TABLE III

PERCENTAGE DISTRIBUTION OF THE WORKING FORCE IN INDIA AND IN RURAL AND URBAN AREAS, BY INDUSTRIAL CATEGORY AND SEX 1961

Industrial Category	India—Total			Rural India			Urban India		
	Persons	Male	Female	Persons	Male	Female	Persons	Male	Female
I Cultivators	52.8	51.4	55.7	60.3	61.1	58.9	6.5	5.6	12.1
II Agricultural Labourers	16.7	13.4	23.9	18.9	15.8	24.8	3.5	2.2	10.5
III (a) Livestock, Forestry, Fishing, Hunting and Plantations, Orchards and Allied Activities	2.3	2.5	1.7	2.4	2.7	1.7	1.7	1.7	1.9
(b) Mining and Quarrying	0.5	0.6	0.3	0.4	0.5	0.2	0.8	0.8	0.8
IV Household Industry	6.4	5.7	7.8	6.1	5.7	7.0	7.9	5.8	19.9
V Manufacturing other than Household Industry	4.2	5.6	1.3	1.5	1.9	0.7	21.0	22.9	9.9
VI Construction	1.1	1.4	0.4	0.7	0.9	0.3	3.7	3.9	2.5
VII Trade and Commerce	4.0	5.3	1.4	2.1	2.6	1.0	16.3	18.0	6.8
VIII. Transport, Storage and Communications	1.6	2.3	0.1	0.5	0.8	0.03	8.0	9.3	1.2
IX Other Services	10.4	11.8	7.4	7.1	8.0	5.4	30.6	29.8	34.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of workers (in millions)	188.4	129.0	59.4	162.0	106.6	55.4	26.4	22.4	4.0
Population (in millions)	439.2	226.3	212.9	359.8	183.3	176.5	78.8	42.7	36.1

Source. Census of India, Paper No 1 of 1962. 1961 Census—Final Population Totals (1962) time However, a series prepared on the basis of the 1961 Census definitions and classification shows that the workers in the agricultural sector have constituted more than 70 per cent of the total working force throughout the present century Even the massive investments in industries and other non-agricultural activities that have been made since the advent of economic planning have not had much effect on the employment pattern

Between 1951-61, the percentage of the working force engaged in the primary sector has declined only by 0 34 points but that in the secondary sector (including mining and quarrying, household industry, other manufacturing activities and construction) has increased by 1 57 points to 12 19 The tertiary sector, which has been subject to a number of qualitative changes now employs a slightly lower percentage of the working force than in 1951

As is to be expected, there are marked differences in the industrial distribution of the working force in rural and urban areas In rural areas nearly 83 per cent of the workers are engaged in the primary sector Employment in the secondary sector is largely in the household industry. Even in the tertiary activities, retail trade, public and medical and health services, education and other miscellaneous services employ a large majority of the workers in the sector

In the urban areas, on the other hand, only 11 7 per cent of the working force is engaged in agricultural activities. In fact, one may be surprised that this percentage is as high as it is. The explanation lies in the vegetable gardens close to urban areas, the inclusion of rural fringe within the administrative boundaries of urban centres and the classification of gardeners and workers on public parks, etc , in the categories of the primary sector. One-third of the workers in urban areas are employed in the secondary sector and most of them in non-household manufacturing, reflecting the concentration of the organized industry in urban areas Nearly 55 per cent of the urban workers are engaged in the tertiary sector, the main activities being retail and wholesale trade, transport, communications, public services, education, and domestic service It is interesting to note, however, that of the total non-agricultural workers in the country, numbering 53 1 millions, more than half (29 8 millions) work in rural areas

The outstanding feature of the occupational pattern remains the preponderance of agricultural employment. The rate of population growth recorded during the past four decades has led to a considerable increase in the pressure of population on land Despite the efforts to reclaim land and extend cultivation, the cultivated land has not increased *pari passu* with the increase in population As a result, not only the available land per capita but also the amount of cultivated land per person engaged in agriculture has been steadily shrinking since 1921

Density of Population

At this stage a word may be said about the density of population The density of population varies from one area to another due to numerous factors, the impact of each of which cannot be clearly assessed The more important factors affecting the density are the conditions of rainfall, availability of irrigation facilities, the configuration of land, fertility of soil and the development of resources in general The 1951 census attempted a scientific classification of natural zones into five broad regions purely from the point of view of topography. On the total area of 1,269,640 square miles there was in 1951 an average density of population of 285, about six times the world average However, the densities actually varied from below 6 in parts of Kashmir to 1,015 in Travancore-Cochin Particularly in Cochin there were rural areas with as high a density of population as 2,000 or 4,000 Such dense rural concentrations are noticed only in China and Jawa The high density sub-regions were the Lower Gangetic Plains, the Upper Gangetic Plains, Malabar-Konkan, South Madras and North Madras and Orissa Coastal Areas The density varied from 461 in North Madras and Orissa to 832 in the Lower Gangetic Plains giving a total average density of 660 for the whole region. Thus, approximately one-half of the population of the country was concentrated on less than one-quarter of the area. This concentration may be possibly explained by the favourable topographical components of this region in point of incidence of rainfall and a favourable distribution of land among the different rainfall belts. The medium density sub-regions were the Trans-

Gangetic Plains, South Deccan, North Deccan, and Gujarat-Kathiawar, the average density here was 260 with a variation from 226 to 332 The low density sub-regions comprised the Desert Area, Western Himalayas, Eastern Himalayas, North-West Hills, North-Central Hills and North-East Plateau The average density in this region was 129 with a range of variation from 192 to 61 On the whole, the six sub-regions covered a little less than half the area whereas the population was between one-fifth and one-fourth of the total population

It is possible to account for the increase in population in these respective natural regions only in very broad terms based on the economic changes that have occurred during the last 50 years The population increases in the higher density regions have been facilitated by the construction of extensive canal irrigation systems, growth of plantations in the Brahmaputra Valley, Cochin and Travancore, mining and industrial development in some of the regions and reclamation of waste lands. In the medium density regions also, the causes mentioned above might have operated and, therefore, a part of the increase in population is ascribable to them As some of the sub-regions in this group were comparatively older among the settled regions, the scope for further development of land here might have been relatively small and, therefore, possibly the increase in population was correspondingly smaller. One significant feature is that all the high density regions have been old centres of civilization and have been populated densely from historical times. Other contributing factors affecting the density of population in different regions might be immigration of population, vagaries of the monsoon recurring famines and epidemics

The 1951 census had also indicated that during the 30 years 1921-1951 population in North-West India was increasing at the fastest rate, closely followed by West and South India, while North (U P) East and Central India were growing by only two-thirds or less of the rates of the three regions. This trend was continued in 1961 by North-West, North (U P) and West India and even South India with the exception of Madras and Andhra Pradesh Central India, freed from malaria and scarcity, also showed an upward swing, while East India recorded a remarkable

During the last decade population grew 62 per cent faster than the rate at which it grew during the period 1941-1951 The States which contributed more than others to this unprecedented increase are listed in Table IV

TABLE IV

STATES SHOWING A RATE OF GROWTH OF 40 PER CENT OR MORE THAN THAT BETWEEN 1941-51

	State	Rate of Growth		Percentage increase of Column (2) over Column (3)
		1951-61	1941-51	
	(1)	(2)	(3)	(4)
1	Assam	34 45	19 28	78 7
2	Bihar	19 78	10 27	92 6
3	Gujarat	26 88	18 69	43 8
4	Madhya Pradesh	24 17	8 67	178 8
5.	Orissa	19 82	6 38	210 7
6	Punjab	25 86	0 21	12,214 3
7	Rajasthan	26 20	15 20	72 4
8	Uttar Pradesh	16 67	11 82	41 0
9	West Bengal	32 79	13 22	148 0

Source Census of India, Paper No 1 of 1962, 1961 Census—Final Population Totals, p xii

Although the areas of high increase are fairly distributed all over the country, there are appreciable variations in the rates of growth among Zones and States and even among well defined areas within a State Not all the variations lend themselves to a ready explanation Thus, one would have expected Kerala (24 76 per cent) with a high literacy rate and pressure of population to have grown at a lower rate as has apparently happened in Madras (11 85 per cent), where, apart from considerable out-migration from the State the birth rate is probably lower than in other parts of the country. Increases during the past decade in various States and even more spectacularly in the Union Territories present a picture of a basin filling up rapidly, not only in the depressions like Gujarat, Madhya Pradesh, Orissa or Rajasthan but even in the rim like Assam, West Bengal and Punjab. The higher rate of increase in Assam may be explained by immigration of labour into plantations, mines, oil areas, railway and road projects as well as immigration from East Pakistan, in West Bengal the increase is due to the influx of displaced persons from East Pakistan, Tibet and Nepal and to the exceptional increase of population in centres of Railways and Communication, in industrial centres around Asansol and Calcutta and in the newly established industrial and multi-purpose project centres like Asansol, Durgapur, D.V.C., Mayurakshi basins.

The average density for the country as a whole in 1961 was 373 per square mile; the density varies from 1127 in Kerala or 1032 in West Bengal to 153 in Rajasthan or 124 in Himachal Pradesh.

Urbanisation

It is appropriate to note here that there has been a steady trend towards urbanisation of the Indian population even prior to the inception of planned development of the country. Even in this regard the pace of growth has been much quicker since 1921 than in any previous period. Data presented in Table V bring out the trend in urbanisation since 1881. It can be seen that in recent

TABLE V

TREND IN URBANISATION

(Population in millions)

	1881	1921	1931	1941	1951	1961@
Total Population	250.2	305.5	338.2	388.8	361.2*	439.2
Urban	23.0	31.3	37.5	49.6	62.6	78.8
Percentage to total	9.2	10.2	11.8	12.7	17.3	17.94
Rural	227.2	274.2	300.7	339.2	298.6	360.4
Percentage to total	90.8	89.8	88.2	87.3	82.7	82.06

* Figure refers to the Indian Union

@ The definition of towns in the 1961 Census has changed

Source: Compiled from the Census of India Reports decades urban population has tended to grow somewhat more than twice as fast as the total population For instance, the rate of urbanisation during the decade 1931-41 was 31 per cent, this percentage rose to 40 during the next decade This rate of urbanisation during 1941-51 was rather unusually high because of War and Partition During the decade 1951-61. however, urban population has increased by about 26 5 per cent This smaller rate of growth was partly because of the change in the definition of the town adopted for the 1961 census Thus, while at the 1951 census the number of cities and towns was reckoned at 3,057, that in 1961 was reduced to 2 690 because of the application of more rigorous tests of towns Inspite of decrease in the number of towns, however, the total urban population estimated at 62 3 million in 1951 increased to 78 8 million in 1961 There was thus an increase of 16 5 million in the urban population despite the elimination of more than 300 places formerly recorded as towns

Despite this pace of urbanisation, the percentage of rural population to the total is still as high as 82 03 (1961) This high percentage can be compared to that in developed countries such as U S A , U K , France and Canada where it stands at about 36, 20, 47 and 36 respectively In part, of course, the small proportion of urban population reflects the meagre development of large-scale industries As can be seen in Table III, the population employed in the organised sector of manufacturing industries was only about 8 millions or 4 2 per cent of the working population in 1961

AGE DISTRIBUTION AND PROSPECTIVE GROWTH

Another important characteristic of the Indian population is what can be called as heavy youth dependency. Something of the order of 40 per cent of the total population is in the age group of 15 years and below, a little less than 60 per cent is in the age group of 15-64 and a small fraction of 2 3 per cent falls into the group of 65 years and above The general picture presented by the structure of the population is one of a broad-based pyramid that tapers rapidly with age This pattern of age distribution which has characterised the population all along this century has certain important economic implications. At the outset this distribution implies that the productive population constitutes a relatively smaller proportion of the total population For instance, the population of working ages, *i.e.*, in the group of 15-59 years, formed in 1961 hardly 54.5 per cent of the total The actual working population was of the order of about 43 per cent of the total population[3] It, therefore, follows that the extent of dependency on the income earners is very much high Such high dependency ratio which generally characterises the population of many underdeveloped countries increases the pressure of consumption on the average income per earner and thereby reduces the savings potential A high dependency ratio thus acts as a restraint on the potential pace with which the economy can develop

The heavy youth dependency has also an important implication for the future trends in population growth. According to Sundburg the number of persons in the age group 0 to 14 years per 1,000 population should be around 400, 330 and 200 in progressive, stationary and regressive population respectively Judged by this criterion, the number of 410 in this age group for India goes to emphasize that the population is still progressive and youthful It can be thus argued that the possibilities of accelerated growth have not yet been exhausted despite the unprecedented growth recorded during the last decade

Moreover, mortality rates can and will decline further, although probably at a slower pace Unless fertility rates decline simultaneously, and at a rate higher than that of decline in mortality rates, the growth rate of the population holds prospects of a further increase If fertility rates remain at their present level, the higher rate of growth will lead to a somewhat younger age distribution than at present and the burden of dependents is likely to rise further. There will, however, be an almost immediate relief in this respect if the fertility rates show some decline

Projections of Population 1976

It is very difficult to provide any dependable projections of the future population growth Changes in birth and death rates are known to be of a most complex nature In India stress is already being laid on family planning but it is difficult to decide how effective such efforts would be over the next 10 or 15 years

---

[3] The working age adopted for the 1961 census was 15-59 years, while for the 1951 census the age group was 15-64

However, it is nonetheless desirable to have some indications of the future trend in population growth A study group assisted by the Registrar-General and the Central Statistical Organisation has prepared the estimates of the likely population for the next 15 years.[4] These estimates are given in Table VI

TABLE VI

ESTIMATES OF POPULATION GROWTH FOR 1966, 1971 AND 1976

(In millions)

Year	Total population	Male	Female
1961	439.2	226.3	212.9
1966	491.5	252.7	238.8
1971	554.7	284.8	269.9
1976	625.1	320.2	304.9

Source Report on the Third Five-Year Plan, p 751

These population projections, based as they are on some assumptions, are somewhat speculative in character and therefore the actual growth of population may deviate from the above figures, and yet, the projections bring out the enormousness of the task involved in providing for such a huge population. In such conditions a large part of the increase in output would be absorbed by the growth of population. That is why the Third Plan has emphasised that "the objective of stabilising the growth of population over a reasonable period must, therefore, be at the very centre of planned development The programme of family planning involving intensive education, provision of facilities and advice on the largest scale possible and widespread popular effort in every rural and urban community has, therefore, the greatest significance"[5] The appeal for family planning is based not merely on quantitative considerations but also qualitative factors, "family limitation or spacing of the children is necessary and desirable in order to secure better health for the mother and better care and upbringing of children Measures directed to this end should, therefore, form a part of the public health programme."[6] Before reviewing the progress made in the programme of family planning it is necessary to discuss briefly the question of public health

---

[4] For details see Report on the Third Five-Year Plan, Planning Commission, Government of India (1961) p 750

[5] *Ibid*, p 25

HEALTH AND EFFICIENCY

The efficiency of work either in agriculture or industry is determined by the energy and capacity of the working population The latter are largely the products of the state of public health in the country Ensuring a certain minimum of physical well-being and creating conditions favourable to greater efficiency and productivity is, therefore, part of a more positive population policy

Reference has already been made to the substantial decline in death rates particularly since 1921 In a way this in itself is a reflection of the achievements of the country in banishing the famines and also in improving public health Along with the substantial reduction in the incidence of famines and scarcity, the control of epidemic diseases has made rapid strides since 1918 The most spectacular programme, the one that no doubt made a most immediate impact on mortality rates, was the nation-wide anti-malaria campaign Malaria used to claim two million deaths every year prior to 1951. The anti-malaria measures undertaken during the two Five-Year Plans have resulted in a marked decline in the annual incidence of the diseases from 75 million cases in 1952-53 to about 10 million cases in 1960-61 In controlling other communicable diseases like filaria, tuberculosis, leprosy and venereal diseases also appreciable progress has been made Although the incidence rate of tuberculosis has remained more or less the same both in rural and urban areas, mortality from this is showing signs of decline. A massive B C G campaign has attacked T B.; during the Second Plan about 120 million persons were tested under the B C G. vaccination campaign Already 135 Study and Treatment Centres for leprosy have been set up and 100 more such centres would be added during the Third Plan. While plague is now practically a thing of the past, cholera and smallpox are quickly contained wherever detected A more important positive development for rural population is the fact

---

6 Report on the First Five-Year Plan (1952) p 522

that about 2,800 primary health units have been established covering most of the development blocks However, infant mortality rate is still very high, estimated at about 146 per thousand during 1958-59 in rural India, compared to 22 per thousand in England during the same period Similarly, maternal mortality in India is estimated at 12.4 per thousand live births which is also very high On the whole, however, one could say that substantial progress has been made in reclaiming the population from the jaws of death The overall improvement in public health is reflected in the data relating to expectation of life which has gone on increasing from 27 years in 1921-31 to slightly more than 45 years in 1961 The relevant data are presented in Table VII

TABLE VII

EXPECTATION OF LIFE 1911-61

Period	Expectation of life at birth (years)	
	Male	Female
1911	22 59	25 54
1921-31	26 91	26 56
1931-41	32 10	31 40
1941-51	32 45	31 66
1951-61	41 9	40 6

Sources Census Reports

The reduction in the rate of mortality is, however, only half the battle, the other half, the rather undramatic part, of the battle consists in lowering morbidity rate which is still high Here it is mainly a question of making up nutritional deficiency and thereby reducing the vulnerability to diseases The broad features of the problem of nutrition are well-known Generally in most parts of India the diet is composed of cereals and is lacking in protective and body-building foods such as milk, meat, eggs vegetables and fruits. The Diet Surveys undertaken between 1935-48 at the instance of the Indian Council of Medical Research indicated that "the average diet of an Indian is lopsided primarily because of its high cereal contents The other noticeable feature is that the diet lacks in adequate amounts of protective foods leading to inadequacy and very often to total lack of proteins of good quality Inadequacy of minerals and loss of the important vitamins in varying degrees is the other important feature"[7] This serious malnutrition is obviously an important cause of high infantile, maternal and general morbidity rates in India Of course, if the aim is to provide a nutritionally adequate diet to the entire population, this would pose the more basic problem of the large gaps between the requirements so assessed and the available surpluses

FAMILY PLANNING

In an already thickly populated country like India an increase in population or man-power resources does not strengthen the economy but in fact weakens it Unless, therefore, measures are initiated to bring down birth rate and thereby reduce the rate of population growth, obviously, an increasing amount of effort on the part of the community will be used up only in maintaining the existing standards of living. Thus, "a rapidly growing population is apt to become more a source of embarassment than of help to a programme for raising standards of living[8] Adoption of a programme of family planning is, therefore, an essential condition for securing a more rapid rise in living standards Fortunately, enquiries conducted regarding the attitudes of the rural population towards the acceptance of the birth control techniques have revealed that there is no serious psychological or sociological resistance to such techniques The programme of family planning has assumed a greater sense of urgency in view of the rapid growth of population witnessed during the last decade. Great stress has, therefore, been laid on the programme in the Third Plan in which a provision of Rs 27 crores, which could be raised to Rs 50 crores, has been made. The programme involves intensive education, provision of facilities and advice on a large scale and widespread popular effort. Within the programme of family planning, sterilisation undertaken on the basis of voluntary choice has also a valuable contribution to make

---

[7] For a detailed discussion of the problem of nutrition, see the Chapter on "Food Supply and Nutrition"

[8] Report on the First Five-Year Plan, p 23

During the Third Plan facilities for sterilisation will be extended to district and sub-divisional hospitals and also to such primary health centres as have the necessary facilities for surgical work The success attained in the sterilisation campaign in the rural areas of Maharashtra has been very encouraging The ultimate aim of all these programmes is to reduce the country's population growth from its present level of more than 2 per cent per annum to about 1 per cent by 1976 To what extent the programme will be effective in reducing the birth rates will of course depend upon the ability of the administration to arouse the interest of the rural population and instil among them a strong motivation towards family limitation and also the extent of resources allocated for the provision of various facilities

CONCLUSION

The main features of the Indian population could now be summed up In the first place the present size of the population is rather large being the second largest among the national populations of the world. Secondly, the density of population is very much larger than in any of the other countries with extensive land areas like Russia, U S.A , Australia, Canada and Brazil The occupational distribution of population shows a heavy dependence on agriculture despite efforts at industrialisation in recent decades. In the context of the large size, the faster rates of population increase recorded since 1921 have lent a sharper edge to the population problem The rapidity of the population growth is primarily due to the abolition of famines and epidemics which were mainly responsible for keeping the population at an almost stationary level prior to 1921 Thus, although birth rates have been apparently subject to only slight variations, a major change has come about in respect of death rates It is against this background that the prospects of growth in the near future have to be assessed, it seems that the potentialities for rapid growth are inherent in the age-structure of the population itself The age-structure also implies a heavy youth dependency which is likely to persist for a considerable length of time Some estimates made about the prospective size of the population indicate that the population may reach as high a level as 625 million by 1976. The question that, therefore, needs to be asked is would it be possible, with the given agricultural resources, to provide for such a large population? Although there are potentialities for increasing the food supply substantially, this does not mean that fears about population growth are wholly mistaken A reduction in the birth rates from the present high levels has immediate economic advantages. irrespective of the question of how many people it would be possible to maintain with India's agricultural resources The pace of economic development depends on the diversion of resources from consumption to investment which raises the output. A population with a high ratio of dependency consumes more of a given output and devotes less to investment. Thus, high fertility, which produces a high level of dependency, promotes consumption at the expense of investment Moreover, there is also the equally important need to improve the quality of population by providing a nutritionally adequate diet. In this context, therefore, the programme of family planning has been accepted as part of economic development plans for the country. Field investigations have also shown that the rural population is responsive to efforts in this direction. In the Third Plan a sizable amount has already been provided for this programme Whether the ultimate aim of reducing the birth rate by any appreciable margin will be achieved would seem to depend upon the ability of the administration to create a consciousness of the problem among the rural population In a way, a slower rate of growth of India's population would tend to ease the problem of economic development itself

CHAPTER III

FOOD SUPPLY AND NUTRITION

Food supply in India has been inadequate both in quantity and in quality, which has led to the widespread prevalence of undernutrition and malnutrition in the country Undernutrition refers to the insufficiency of the quantity of the diet. The continuation of undernutrition for a period of time results in loss of body weight for the same physical activity or to reduced activity for the same body weight, or both In the case of children, undernutrition retards physical growth Malnutrition which refers to the quality of the diet, arises from lack of adequate amounts of proteins, essential minerals and vitamins Thus the diet may be quantitatively sufficient, but it may still be unbalanced, because it is composed heavily of cereals and starchy foods with too few of the protective foods such as meat, milk, fruits and vegetables Malnutrition persisting for a long period impairs health and vitality and results in a variety of deficiency diseases Malnutrition and undernourishment contribute to reduced resistance to diseases, aggravating their incidence, increased child mortality and a shorter span of life They also adversely affect working efficiency of the population

HISTORICAL

The inadequacy of the Indian diet, both quantitatively and qualitatively, has been pointed out in the past by various authorities As far back as 1880, the Famine Commission in India estimated the output of foodgrains at 52 million tons and consumption at 47 million tons, thus leaving a surplus of 5 million tons, at the same time the Commission sounded a note of warning that excessive pressure of population on the land was resulting in inefficient cultivation The Famine Commission of 1898 significantly observed that whatever may have been the normal annual surplus of foodgrains in 1880, the 'present' surplus cannot be greater than that figure It is possible that, for a time, improved cultivation and extension of irrigation helped to maintain an equilibrium between growth of population and food supply but soon this balance was upset In 1914, the Prices Enquiry Committee emphatically declared that population had increased by a larger percentage in the period under enquiry (1890 to 1912) than either the total area under cultivation or under foodgrains; in other words, the requirements of foodgrains for internal consumption had increased by a larger proportion than the total production of foodgrains This, in the opinion of the Committee, was due to the substitution of non-food for food crops and the inferior quality of the new areas brought under cultivation which naturally meant a comparatively low productivity The Famine Inquiry Commission of 1945 pointed out that 30 per cent of the Indian population did not get enough to eat in normal times, while the food of a great majority of the rest was unbalanced

The earliest report on certain aspects of public health in rural areas in India was published nearly three decades ago Sir John Megaw conducted an enquiry on food consumption in several Indian typical villages in 1933 The investigation showed that only 39 per cent of the people were adequately nourished, 41 per cent poorly so and 20 per cent came under the category of 'very badly nourished' Bengal, with proportions of 22 per cent, 47 per cent and 31 per cent under these three classifications respectively, was the worst of all the regions The main conclusions of the Report were (i) in nearly 40 per cent of the villages, the population was excessive in relation to the food supply, as a result of which India had a very poorly nourished population, (ii) the average span of life was less than half of what it might be, (iii) periods of food scarcity or famine occurred in one village out of every five during a ten-year period in which there was no exceptional failure of the rains, and (iv) in spite of the high death rate, the population had been increasing much more rapidly than the output of food and other commodities.

Even before the World War II, India was experiencing a sizable shortage of foodgrains It was in the beginning of the third decade of the present century that India became a net importer of foodgrains Its imports of foodgrains went on increasing gradually and in 1939 they totalled well over two million tons They consisted mostly of rice from Burma

TABLE I

IMPORTS AND EXPORTS OF FOODGRAINS 1920-40

(In lakhs of tons)

Five-year period	(Average for five-year period) Imports	Exports	Net imports
1920-21 to 1924-25	11 4	9 8	1 6
1925-26 to 1929-30	15 9	8 3	7 6
1930-31 to 1934-35	18 4	5 7	12 7
1935-36 to 1939-40	20 7	6 9	13 8

Source Census of India, 1951, Vol I, Part I-A Report (1953), p 166

The increase in the net imports was mainly a result of the rapidly increasing population and the decline in the per capita area of cultivated land since 1921 The latter actually declined from 111 cents in 1921 to 104 cents in 1931 and 94 cents in 1941[1]

Effects of World War II

The food situation in India became noticeably acute during the World War II, particularly after the cessation of imports of rice from Burma in 1942 With the pressure of war demands on the one hand and growing difficulties in mobilising available supplies, on the other hand, due mainly to increased hoarding by producers and traders, foodgrain prices increased sharply Some of the factors responsible for the increased demand for food were the additional requirements for a million evacuees and war prisoners and for a large foreign army stationed in India and the increase in internal consumption consequent on the new recruits to the army and the workers in the war industries consuming food in larger quantity than before the war On the supply side, the position had definitely deteriorated Further, there were transport bottlenecks which caused acute shortages

[1] Census of India, 1951, Volume I, Part I-A Report (1953), p 141

in certain areas within the country As the Central Government then hesitated to adopt any bold comprehensive policy, the several provinces tried to tackle the problem without any co-ordinated plan While efforts were made to grow more food, the net imports of foodgrains steadily decreased from 2.15 million tons in 1939 to 1 23 million tons in 1940 and 0 5 million tons in 1941. In 1942, exports exceeded imports by 0 2 million tons The prospects of increased food production appeared uncertain as there was no definite policy initially for regulating relative prices or for increasing production effectively

Government tried to evolve a policy of price control of foodstuffs through an extended process of trial and error India had to go through the experience of failure of supplies, black market, hoarding and break-down of the distributive machinery This was in contrast to the successful food policy adopted in various countries directly involved in the war Price controls were adopted in a piecemeal manner and there was no co-ordination between the various provincial policies Even after three years of conferences and debates, the Government of India were not in a position to take over the entire procurement operations and assure to every citizen adequate food at reasonable prices

Bengal Famine

The failure of adminstiation in India in the initial years of the war to meet the emerging situation created an unprecedented crisis in Bengal The Bengal famine of 1943 was a tragedy which caused the deaths of probably one and a half million people Instances were recorded of sales of land in exchange for a week's supply of food The famine meant a complete disruption of the socio-economic life of Bengal The Commission under the Chairmanship of Sir John Woodhead which reported in 1945 revealed that the problem was not merely one of relief for the destitutes, it reflected a long-run maladjustment between the supply and demand for food The Famine Inquiry Commission laid the blame not only on the Government of Bengal which ought to have taken steps to control supplies effectively and to distribute them at reasonable prices but also on the Government of India which ought to have established a system of planned movement of foodgrains from surplus to deficit provinces. They concluded, "Society, together with its organisations, failed to protect its weaker members. Indeed, there was a moral and social break-down, as well as administrative break-down."[2]

Effects of Partition

The Partition of the country in August 1947 aggravated the problem of food supplies in India. Of the total area of about 1.58 million square miles of undivided India, as much as 22.8 per cent went to Pakistan and only 77.2 per cent remained in the Indian Union. On the other hand, as much as 80.8 per cent of the total population of 417 million remained in the Indian Union, while only 19.2 per cent was in Pakistan.[3] Similarly, Pakistan obtained about 30 per cent of the total irrigated area of 70 million acres of undivided India. Of the total area of 81 million and 35 million acres under rice and wheat respectively in undivided India, Pakistan got as much as 28 per cent and 30 per cent respectively. Thus in the case of these two major food crops, the position became relatively unfavourable to the Indian Union. Similar situation developed in regard to the two main commercial crops, namely, cotton and jute, Pakistan's share in the total area under them being 23 per cent and 76 per cent respectively. As a result, India was faced in the immediate post-Partition period with the problem of aggravated shortages of foodgrains and raw materials.

CURRENT NUTRITION SITUATION

The information about the current nutrition condition of the people in India is available mainly from two types of sources. Food balance sheets which can be prepared from the figures of food production adjusted for trade stocks and non-food utilization, provide useful data on the average *per caput* food supply for individual commodities at the retail level. They also show the contents of the average *per caput* food supplies in terms of calories and nutrients. However, food balance sheets do not provide any information on variations between different socio-economic groups in the country. Such information on the distribution of food within the population and the factors influencing it is available from diet surveys conducted by the Indian Council of Medical Research (ICMR)

---

[2] Final Report of the Famine Inquiry Commission (1945), p. 107.

[3] C. N. Vakil: Economic Consequences of Divided India (1950), p. 69.

Under-nutrition

The daily average *per caput* calorie requirements as revised by the Nutrition Advisory Committee (NAC) in 1958 for the moderate level of physical activity are of the order of 2,250 to 2,300 at the retail level The average daily protein allowance made by NAC works out to 62 grams per head The actual food availability for the period 1956-59 which is estimated by Dr P V. Sukhatme,[4] after making necessary adjustments to the food balance sheet data, together with the calorie and protein contents are shown below:

TABLE II

PER CAPUT DAILY FOOD SUPPLIES FOR INDIA DURING 1956-59

	Quantity in grams	Calories	Proteins in grams
Cereals	375	1,324	30 8
Roots and Tubers	30	28	0 4
Pulses and Nuts	65	203	12 5
Sugarcane (*Gur*)	45	158	0 5
Vegetables and Fruits	80	30	0 9
Meat	4	6	0 5
Eggs	1	1	0 1
Fish	7	4	0 6
Milk	140	118	5 2
Oils and Fats	11	97	—
Total Calories		1,970	—
Total Proteins			51 5
a) Animal Proteins			6 4
b) Vegetable Proteins			45 1

Thus per capita supplies of calories and proteins available during 1956-59 work out to be 1,970 calories and 51 grams per day respectively as against the average per capita requirements of 2,300 calories and 62 grams of proteins per day Table II also reveals preponderance of cereals which contribute as much as two-thirds of *per caput* calorie supplies and a significant deficiency of protective foods especially animal products which account for less than 7 per cent of the average calorie supplies. The diet surveys conducted by the Indian Council of Medical Research during 1935-48 and 1955-58 also confirm these findings

---

[4] P V Sukhatme, "The Food and Nutrition Situation in India (Part I)," *Indian Journal of Agricultural Economics*, Vol XVII, No 2, April-June, 1962, p 5

TABLE III

COMPARISON BETWEEN A BALANCED DIET AND THE ACTUAL FOOD INTAKE IN INDIA

Items		Ounces per Consumption Unit per Day		
		Balanced diet[5]	Average intake of foodstuffs in India	
			1935-48[6]	1955-58[7]
1	Cereals	14	16.62	16.59
2	Pulses	3	2.26	2.39
3	Vegetables			
	(a) Leafy	4	0.85	0.71
	(b) Others	6	4.10	3.20
4	Fruits and Nuts	3	0.58	0.21
5	Sugar and Jaggery	2	0.67	0.71
6	Oils and Fats	2	0.92	0.52
7	Milk and Milk Products	10	3.31	2.81
8	Meat and Fish	3	0.94	0.47
9	Eggs	one egg		

It would be observed that except for cereals, the consumption of which was more than the quantity needed for a balanced diet, the average consumption of all the items was below the recommended levels of intake The deficiency in the consumption of pulses and non-leafy vegetables is relatively small as compared to the other items of the diet. The intake of protective foods like milk, meat and fish, eggs, fruits, etc. is very low in comparison with the recommended levels. Thus the average Indian diet is unbalanced primarily because of preponderance of cereals and a large deficiency of protective foods leading to inadequacy and very often to a total lack of good quality proteins.

---

[5] W R Aykroyd The Nutritive Value of Indian Foods and Planning of Satisfactory Diets (Health Bulletin No 23) Fifth Edition by V N Patwardhan and S Ranganathan, Government of India (1956), p 16

[6] Indian Council of Medical Research—Special Report Series No 20 Results of Diet Surveys in India, 1935-48, p 18, Table No 1

[7] C G Pandit and K S Rao Nutrition in India, 1946-58, Indian Council of Medical Research (1960), p 20

The heavy dependence on cereals and the large shortage of animal products in the Indian diet is mainly due to the poverty of the people in India. Results of the Agricultural Labour Enquiries[8] conducted in 1950-51 and 1956-57 showed that in practically every part of the country the consumption of foodgrains in families with low income was considerably below that of somewhat better-off families living side by side and doing the same work. A large number of families was thus living on inadequate quantities of food, for want of adequate income. This is further confirmed by the data for Maharashtra, collected in the 14th Round of National Sample Survey (NSS) in 1958, which are given below.

TABLE IV

CALORIE AND PROTEIN SUPPLY BY EXPENDITURE LEVEL MAHARASHTRA, 1958

Item	Monthly Per Capita Expenditure in Rupees							
	0-8	8-11	11-13	13-18	18-24	24-34	34 & above	Average
Total Calories	1,120	1,560	1,850	2,190	2,440	2,530	3,340*	2,100
Calories derived from Cereals	940	1,300	1,510	1,740	1,860	1,800	2,150	1,590
Percentage	84	83	82	79	76	71	64	76
Total Proteins in grams	30.7	45.0	52.8	60.4	66.3	71.7	85.7	59.7
Animal Proteins in grams	1.0	1.8	2.3	2.9	6.1	7.1	11.9	4.5

Source *Indian Journal of Agricultural Economics*, Vol XVII, No 2, April-June, 1962, p. 14

* This value appears unduly high. It is stated that this is partly due to the exclusion from the household size of guests and labourers taking meals.

---

[8] Report on Intensive Survey of Agricultural Labour, Vol I—All-India, 1950-51, Ministry of Labour, Government of India (1954), and Agricultural Labour in India. Report on the Second Agricultural Labour Enquiry Vol I—All-India, 1956-57, Ministry of Labour and Employment (1960).

Table IV shows that at low levels of total expenditure, the calorie supply is extremely small and that it is primarily derived from cereals which form the cheapest source of energy of the low income people With the improvement in income, the calorie supply also improves and the dependence on cereals declines although even in the high income groups it still forms some two-thirds of the total calorie supply The gradation is similar for total proteins and animal proteins As income increases, the supply of total proteins as well as of animal proteins improves The calorie supply approaches the desired level only when the monthly per capita expenditure reaches the range of Rs 13—18, but even at this level, the intake of animal proteins is at the extremely low level of 3 grams per day The significance of this observation can be seen when it is realised that the per capita income is under Rs 18 per month in the case of over 60 per cent of the population of Maharashtra

After analysing carefully the available evidence of hunger and undernourishment in India Prof M L Dantwala[9] in his recent article has appropriately pointed out that the root cause of these phenomena is poverty, due to lack of adequate gainful employment He has particularly emphasized that in the absence of the organised system of social security like unemployment, old age or sickness allowance, it is the joint family system which helps to spread the shortages more evenly and converts hunger of some into undernourishment of many

In the advanced countries like the U K. and the U S A. on the other hand, there is no insufficiency of calorie supplies even in the lowest income groups The wide gap as of the order of 300 calories between the *per caput* calorie supplies for the country as a whole and average calorie requirements indicates that a high percentage of population, particularly the poorer sections, suffer from undernutrition in India By using the data available from the diet surveys conducted by ICMR during 1935-48, Dr. Sukhatme has estimated that about a quarter of Indian households was undernourished during 1935-48[10] Similar diet surveys

[9] M L Dantwala, "International Planning to Combat the Scourge of Hunger throughout the World," *Annals of Collective Economy*, Vol. XXXIV, No 1, January-March 1963, p 77

[10] P V Sukhatme, *Op cit*, pp 1-28

for the period 1955-58 show that the food consumption levels did not show any improvement during the intervening period This is well brought out by the data given in Table III above.

The analysis of the food consumption data for Maharashtra from the 14th Round of NSS also shows that as many as 40 per cent of the households did not attain the desired level of calorie intake of 2,350

Malnutrition

Unlike the quantitative aspect, the qualitative aspect of nutritive value of a diet cannot be measured in terms of a single yardstick. Proteins, vitamins and minerals all enter into it, but the requirements of some of these have so far not been established Hence, some indirect indicators have to be used to measure the extent of malnutrition Dr Sukhatme has used the following yardsticks in his analysis [11] (i) the content of animal proteins in a diet, (ii) the proportion of animal proteins to total intake of proteins and (iii) the proportion of calories derived from cereals starchy roots and sugar When the intake of animal proteins or its percentage to the intake of total proteins is low or the percentage of calories derived from cereals, starchy roots and sugar is high, the diet is regarded as unbalanced and of poor quality The *per caput* intake of proteins during the period 1956-59 has been estimated to be 51 grams as against the average daily protein requirements of 62 grams per head as revised by NAC Of these, the intake of animal proteins at 6 grams *per caput* per day formed only 12 per cent The calories from cereals, starchy roots and sugar also formed as high as 77 per cent of the total calories per head per day From the 14th Round of the NSS data for Maharashtra and by using the yardstick of the proportion of calories derived from cereals. starchy roots and sugar, Dr Sukhatme concludes his analysis by an observation that if conditions in Maharashtra are any indication of the extent of malnutrition in other parts of the country, then it appears that relative to the nutritional standards enjoyed by the well-fed countries, two out of every four people are malnourished in India The undernourished are usually malnourished On this basis, about 200 to 250 millions of India's population are either undernourished or malnourished.

---

[11] *Op cit*, p 23

A continued undernourishment and insufficiency of specific nutritional elements in the Indian diet has led to the widespread prevalence, in the large sections of the population, of several deficiency diseases such as *kwashiorkor*, nutritional oedema, due to protein deficiency, Beriberi, night blindness and Bitot spots due to deficiency of Vitamin A, pellagra caused by the deficiency of Vitamin B, and anaemia resulting from iron deficiency In many other cases, although continuous malnutrition has not resulted into any of these serious diseases, it has led to its consequential ill effects on health, efficiency and longevity of the population of India

EVOLUTION OF FOOD POLICY

Grow More Food Campaign

The evolution of food policy in India started with the Grow More Food Campaign There used to be regular imports of rice from Burma, after its separation from India, ranging from 1½ to 2 million tons When it became clear that the normal supplies from Burma would be cut off by Japan's entry into the War, a conference of representatives of the Provinces and the States which met in April 1942 made certain recommendations for increasing food production in the country to offset the loss of normal imports of rice. These recommendations formed the basis for the GMF campaign The main lines of action between 1943 and 1947 were (i) to switch over from cash crops, mainly from short staple cotton to food crops, (ii) to intensify cultivation of lands already under cultivation, through irrigation, better seeds and manure and improved farming practices, and (iii) to extend cultivation by bringing under the plough current fallows, cultivable wastes, etc In this first phase, no target of food production was fixed

The movement was placed on a planned basis from 1947-48 when it was decided to continue the GMF campaign for another five years The target of additional production for the period was fixed at 4 million tons The third phase followed the adoption of the recommendations of the Food Grains Policy Committee (1947) The Committee suggested a target of 10 million tons of increased production out of which 3 million tons were to be achieved by the reclamation of about 10 million acres of land They also suggested an organisational set up based on village panchayats and co-operative societies to help in the production drive

On a review of the food position towards the close of 1948 it appeared that the sense of urgency which was essential for the success of a programme of this magnitude had not been realised in the country and that a re-orientation of policy was necessary On the advice of Lord Boyd Orr who was invited specially to review the working of the campaign, a definite process of co ordination between the Centre and the States with wide powers to execute the programme was initiated by the appointment of a Commissioner of Food Production at the Centre and corresponding officers in the States These were all assisted by sub-committees for taking quick decisions and for ensuring the implementation of policies without delay The objective of this new policy was to attain self-sufficiency by March 1952 The deficit to be made up by the target date was 4 8 million tons over the production in the year 1947-48 This was the fourth phase of the campaign

When this programme of self-sufficiency was put into operation, an acute shortage of cotton and jute was felt owing to the devaluation of the rupee in 1949 and difficulties of getting raw materials from Pakistan The policy had, therefore, to be revised with a view to achieving a simultaneous increase in production of foodgrains as well as of cotton and jute This 'Integrated Production Programme' (June 1950) envisaged a diversion of land from foodgrains to these crops to the extent of about 1 5 million acres in 1950 51 and 2 2 million acres in 1951-52 Subsequent additions were made to the scope of this scheme which included the reclamation of 3 million acres of land in seven years from 1949-50 under the Central Tractor Organisation Besides, schemes relating to fisheries, subsidiary foods and crop competitions were added

The Grow More Food Enquiry Committee set up in February 1952 to examine the working of the Grow More Food Campaign came to the conclusion that the campaign had not achieved the result expected of it The targets of additional production fixed for the various phases of the campaign and the shortfall in achievement are indicated in Table V.

TABLE V

ACHIEVEMENTS AND TARGETS OF ADDITIONAL PRODUCTION UNDER THE GMF CAMPAIGN

Period	Target (in lakh tons)	Achievement (in lakh tons)
1947-48	9 09	6 97
1948-49	8 86	7 95
1949-50	9 85	8 11
1950-51	17 00	11 00
Total	44 80	34 03

Source Report of the Grow More Food Enquiry Committee, Government of India (1952), p 14

A check on the results through special surveys showed that the output reported by the States was over-estimated by about 20 per cent The actual increase was about 2 7 million tons instead of 3 4 million tons shown in the table

Food Supply under the Plans

The integrated scheme of food production along with the recommendations of the Grow More Food Enquiry Committee was incorporated in the First Five-Year Plan and a target of 7 6 million tons of additional foodgrains over the foodgrains production of 54 0 million tons in the base year 1949-50,[12] was fixed to be achieved by 1955-56 The target was to be realised not only through the Grow More Food Schemes but also through major and minor irrigation projects and the programmes of Community Development and National Extension Service projects There was a serious failure of food crops in the very first year of the Plan and the shortage in foodgrains could only be met through large imports of foodgrains, financed partly out of the U S Wheat Loan Imports of foodgrains rose to 4 7 million tons in 1951 from 2 1 million tons in the previous year and in 1952 also they were as high as 3 9 million tons In the third year of the Plan period, however, foodgrains production increased substantially and even exceeded the Plan targets.

---

[12] The foodgrains production for 1949-50 was taken as the base year as in 1950-51 the yield was not normal

TABLE VI

FOODGRAINS PRODUCTION AND TARGETS 1950-1963@

(in million tons)

					Targets of Production		
	1950-51	1955-56	1960-61*	1962-63*	1st Plan	2nd Plan	3rd Plan
Rice	20 86	27 11	33 66	31 91	27 2	32 0	45 0
Wheat	6 64	8 63	10 82	10 82	8 3	11 5	15 0
Other Cereals	16 24	19 20	22 76	24 27	17 0	24 5	23 0
Total Cereals	43 74	54 94	67 24	67 00	52 5	68 0	83 0
Pulses	8 51	10 88	12 45	11 44	9 1	12 5	17 0
Total Foodgrains	52 25	65 82	79 69	78 45	61 6	80 5	100 0

@ The production figures for 1950-51 and 1955-56 (taken from Economic Survey 1961-62, Government of India, Appendix Table No 1 4) have been adjusted in the light of index numbers of agricultural production for these years The revised production of 1956-57 is taken as the base for this adjustment Figures for 1960-61 and 1962-63 are from Bulletin on Food Statistics, Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India, February 1964 and *Agricultural Situation in India*, Vol XIX, No 5, August (Annual Number), 1964, p 541

* Partially revised estimates

Against the increase of 7 6 million tons anticipated over the First Plan period, the actual production of foodgrains rose by 11 8 million tons to 65 8 million tons in 1955-56 over the base year level of 54 0 million tons Rice showed the largest increase in production and the target of wheat production was just realised But the target of rice production could not be reached except in 1953-54 The production of other cereals exceeded the Plan target by a substantial margin The satisfactory performance of foodgrains production in the Plan period made possible a reduction in their imports from 4.7 million tons during 1951 to less than a million tons in 1954 as well as in 1955 However, the total net availability of foodgrains increased from 49.9 million tons in 1951 to 60 1 million tons in 1955 Per capita net availability per day rose from 13 5 ounces to 15 1 ounces during the same period

While fixing the food production targets, the Second Five-Year Plan gave special consideration, among others, to the increase in the total population and the need to improve the per capita consumption. Further, with its aim to diversify agricultural production, it also shifted somewhat the emphasis from cereals to supplementary foods such as fruits and vegetables, milk, eggs, etc. The total foodgrain requirements in 1960-61 at the rate of consumption at the beginning of the Plan were estimated to be 70.5 million tons. By the end of the Second Plan, the rate of consumption was, however, expected to rise to 18.3 ounces per adult consisting of 15.5 ounces of cereals and 2.8 ounces of pulses and the total foodgrain requirements to 75 million tons.

The upward trend of foodgrain prices at the beginning of 1956, however, gave rise to serious doubts regarding the adequacy of the Second Plan target. A larger increase in the production of foodgrains was felt necessary to meet the rising domestic demand and thus provide an adequate safeguard against the possibility of inflation. As a result, the Second Plan target of additional foodgrain production was revised upwards to 15.5 million tons from the original target of 10 million tons.

The total output of foodgrains improved in the first year of the Second Plan but it was just fractionally higher than the level reached in 1953-54. In the second year there was a substantial fall in the production of foodgrains to 63.2 million tons. The decline in the production was marked in the case of rice, wheat and pulses. During 1958-59, foodgrains production reached a record level of 75.9 million tons mainly due to well-distributed rainfall and favourable weather conditions. In the Second Plan period as a whole, the foodgrains production increased by 13.9 million tons to 79.7 million tons in 1960-61 against the target of 80.5 million tons. The production of rice at 33.7 million tons registered significant progress and exceeded the Plan target of 32 million tons. But there was a short-fall in the production of wheat, other cereals and pulses. Total foodgrains production in the last year of the Second Plan thus fell short of the target by 1.0 per cent.

In spite of substantial increases in the total output of foodgrains during the Second Plan, the imports of foodgrains continued to be large mainly because of a rapid increase in demand due to accelerated population growth and increase in incomes of the people. Imports of foodgrains rose from less than a million tons in 1955 to 1.4 million tons in 1956, 3.6 million tons in 1957 and further to 3.8 million tons and 5.1 million tons in 1959 and 1960 respectively. The additional imports in 1959 and 1960 were utilised for building up Government stocks of foodgrains. In 1961, imports amounted to 3.4 million tons. Imports of wheat, which form a major portion of foodgrain imports have been arranged under P.L. 480 from the United States, under Colombo Plan assistance and on deferred payment basis. A small quantity of wheat has also been imported on commercial basis to avoid disturbance to the normal pattern of world trade. Rice imports, which represent a comparatively small part of total foodgrain imports, have come mainly from Burma and U.A.R., partly against rupee payments, but mostly on payment of foreign exchange. In 1960, rice was also imported from the United States under P.L. 480. In addition to wheat and rice, the country has imported small quantities of millets, almost entirely under P.L. 480. India entered into an agreement with the United States in May 1960, providing for the import of 16 million metric tons of wheat and 1 million metric tons of rice under P.L. 480 over a period of four years. Out of the total quantity of 17 million metric tons under the agreement, 4 million metric tons of wheat and 1 million metric tons of rice are intended for building up reserve. The total net availability of foodgrains improved from 60.1 million tons in 1955 to 73.3 million tons in 1961, the per capita net availability per day having risen from 15.1 ounces to 16.2 ounces during the same period.

One of the main aims of the Third Five-Year Plan is to achieve self-sufficiency in respect of foodgrains. The target of foodgrains production is therefore placed at 100 million tons in 1965-66. The Plan envisages an increase of 6.9 per cent in area under foodgrains resulting in an additional output of 3 million tons. The balance of 21 million tons of the proposed target is to be achieved by an increase in the average yield per acre. In 1961-62, in spite of the record wheat output of 11.8 million tons, foodgrains production as a whole at 79.7 million tons was more or less of the same order as in the previous year. In 1962-63, the production of foodgrains at 78.4 million tons was lower than that in the last year of the Second Plan As compared with the production in the first year of the Plan, the production of rice and wheat at 31 9 million tons and 10.8 million tons was lower by 2 3 million tons and 1 million tons respectively The production of other cereals rose by 2 million tons to 24 3 million tons and that of pulse remained at the same level at 11 4 million tons

With a view to diversifying the pattern of food consumption and promoting balanced nutrition, the Third Plan includes programmes for the increased production of subsidiary food items such as vegetables, fruits, etc The Plan also includes development schemes for the conservation and effective utilisation of perishable foodstuffs and development of protein-rich foods

FUTURE PROSPECTS

The prospects of making good the deficiencies in the quantity and quality of Indian diet within a foreseeable future would thus depend on the possible increase in the production of different types of necessary food and the future course of the increase in the population A slow improvement is evident from the review of the last decade when the daily per capita supply of foodgrains increased from 13 5 ounces in 1951 to 16 2 ounces in 1961. As a result of this and improvement in the availability of some other food items, calories per capita per day rose by 20 8 per cent and the average daily consumption of proteins by 21 6 per cent during the same period[13] This slow favourable trend could be accelerated by stimulating production especially of the protective foods. In addition, it is imperative to reduce the growth of population by popularising family planning practices more particularly in rural areas

Between 1951 and 1961, India's population increased at an annual compound rate of 1 8 per cent to 439.2 million The increased rate of population growth observed in the decade was mainly a result of a decline in the death rate due to better control of public health and sanitary conditions during the first two Plan periods Measures to improve public health envisaged in the Third Plan are expected to bring down the death rate still further, but the fall would not be as large as in the last decade because the major schemes like malaria control had already achieved a substantial success in the last decade As a result of the spread of family planning campaign, the birth rate may also show a decline, but not perceptibly in the immediate future. Indeed the possibilities of acceleration in the rate of population growth have still not been exhausted Hence, India's main hope of improving the level of nutrition of her people lies in realising the agricultural potential as quickly as possible

---

[13] E S Nasset, "An Approach to a Food and Nutrition Programme for India," *Agricultural Situation in India*, Vol XVII, No 5, August (Annual Number), 1962.

The Planning Commission in their population projections given in the Third Five-Year Plan proceeded on the assumption that the fertility rates in India would decline only after 1971 and estimated that the total population of India would reach a figure of 625 million by 1976 Dr Sukhatme in his recent paper[14] has pointed out that with such a rapid increase in population, food supplies needed by 1981 would have to be two-thirds higher merely to sustain the population at the present level of diet Therefore much larger food supplies would be needed if in addition to providing for the growth of population, allowance is to be made for improving the present standards of nutrition His analysis shows that if in addition to providing for the increase in population, India is also to wipe out the current deficit by 1971 then it would have to increase the available supplies by about 44 per cent in cereals, 115 per cent in pulses, 130 per cent in fruits and vegetables and 100 per cent in animal products This implies that the total food supplies would need to be increased by about 4 65 per cent per annum as against a rise of little over 3 per cent recorded in the last decade The present rate of increase in food supplies is inadequate to wipe out the current deficit before 1981 and therefore much bigger efforts would be needed if the deficit is to be met by 1971 Dr Sukhatme estimates that the continuation of the increase in the total food supplies at the rate of 4 65 per cent per annum after 1971 would help to reach by 1976 the moderate level target, i e, a reasonably good level of nutrition to which people can rightfully aspire in the course of 15 years or so

---

[14] P V Sukhatme, "The Food and Nutition Situation in India (Part II)," *Indian Journal of Agricultural Economics,* Vol XVII, No 3, July-September, 1962, pp 1-34

The task of raising the additional food needed on such a large scale is enormous though there exists considerable scope for increasing the production of food within the country Several of the reliable estimates show that the yield per acre in India is about a quarter to a third of the current yield per acre in certain other countries Further, out of a total geographical area of about 806 million acres, the net area sown totalled only 324 million acres in 1958-59 There were a little less than 60 million acres of fallow land and another 97 million acres of uncultivated land Of these, about 50 to 60 million acres can be brought under plough which should raise foodgrains production by about 14 to 15 million tons Further out of the net area sown of some 324 million acres, some 49 million acres were double cropped in 1958-59 With the extension of irrigation facilities to 175 million acres as proposed by the Planning Commission as compared to about 60 million acres at present, it should be possible to increase the area under double cropping by well over 100 million acres

The extent of deficiency is, however, more serious with regard to protective foods, the supply of which is very small at present In addition to the measures of increasing overall food production in the country, it is essential to take special measures for increasing the production of certain groups of protective foods Proteins being an important element requiring immediate attention, steps to increase the production of protein-rich foods deserve priority Recent studies have shown that pulses in combination with cereals and certain other vegetable foods provide a balance of amino acids comparable to that of many animal proteins. Therefore, steps should be taken to increase the production of pulses and this would be best practicable interim approach to the problem of protein deficiency until such time that animal food protein which is more complete with reference to its amino-acid composition, can be increased Steps also should be taken to increase the domestic production of fruits and vegetables

The most difficult problem is that of increasing milk output The problem is however an urgent one because milk is the only acceptable source of good quality protein in the country, especially for children with its additional value as protective food to supply minerals and vitamins and also animal fat which is very inadequate in the Indian diet India has about one-fifth of the world's cattle population, though most of it is undernourished Efforts should therefore be made to increase milk production by increasing the resources of feed and fodder, reducing the surplus number of animals and improving the breed

A large deficit has also to be made up in the production of flesh foods and eggs The experience in many countries shows that by good feeding and management and proper disease control total production of eggs in the country can be increased appreciably India has a long coastline and abundant inland water resources, but the total fish output is small because these resources still remain largely unexploited If facilities for improved haulage, quick and refrigerated transport and cold storage are provided, a good part of the deficit of good quality protein in the Indian diet could be met in a short time

The food production drive would have to be supplemented by measures to improve storage, preservation and transport of specially perishable goods and by provision for instruction of the people regarding the nutritive value of different kinds of foods, the methods of cooking and the relation between food and health There also exists considerable scope for exploitation of a large number of hitherto neglected sources of vegetable protein foods It is now quite feasible to recover proteins of good biological value from the plant kingdom

CHAPTER IV

AGRICULTURAL PRODUCTION

In any review of agriculture's contribution to economic development, the pride of place must belong to the growth in agricultural product[1] This apparently simple discussion runs into many unexpected difficulties, the moment an attempt is made to give it a statistical dimension During the last decade (1951-60), especially in its first half, the statistical coverage of cropped area and production was continuously expanding, hence, year to year absolute figures of production do not reflect the real increase in production Besides, during this period, there was a gradual change in the method of estimating crop yields from the traditional eye estimates to the one based on scientific crop-cutting tests The year of change varied not only region by region, but also by crop to crop The Ministry of Food and Agriculture has, however, worked out an index number series of production, eliminating as far as possible the element of non-comparability arising out of the changes in coverage and estimation methods. Table I gives the necessary information

TRENDS IN AGRICULTURAL PRODUCTION

Table I brings out the marked year to year fluctuation in agricultural production It will be seen from the Table that despite annual fluctuations, agriculture in India has made considerable progress since the initiation of the First Five-Year Plan (1951-52). At the end of the Second Plan (1960-61), the index of overall agricultural production stood at 139 7, the increase being nearly 40 per cent over 1949-50 During the same period, the index of foodgrains production increased by 35 6 per cent while that of non-foodgrains by 48 per cent The first two years of the Third Plan suffered from unevenly distributed rainfall over

---

1 *Vide* "Economic Development and the Role of the Agricultural Sector in India," M L Dantwala, Paper submitted to the ECAFE in 1964

TABLE I

INDEX NUMBERS OF AGRICULTURAL PRODUCTION IN INDIA 1950-63

(Agricultural year 1949-50 = 100)

Agricultural Year	Rice	Wheat	Cereals	Pulses	Food-grains	Oil-seeds	Cotton	Jute	Sugar-cane	Non-Food-grains	All Commodities
1950-51	87.9	101.1	90.3	91.7	90.5	98.5	110.7	106.3	113.7	105.9	95.6
1951-52	90.1	93.9	91.2	90.3	91.1	97.4	119.2	151.4	122.8	110.5	97.6
1952-53	96.8	112.7	101.4	98.8	101.1	91.9	120.0	148.6	101.6	103.8	102.0
1953-54	118.6	120.0	120.1	112.0	119.1	103.7	151.8	100.0	89.5	104.7	114.3
1954-55	105.8	135.4	114.5	118.5	115.0	122.6	163.6	94.8	115.9	120.9	117.0
1955-56	114.2	131.3	114.9	118.4	115.3	108.6	153.9	135.8	119.8	119.9	116.8
1956-57	120.4	140.7	120.5	122.9	120.8	120.3	181.2	138.7	137.2	131.5	124.3
1957-58	105.7	118.5	110.1	103.0	109.2	119.0	178.8	128.8	138.1	129.5	115.9
1958-59	127.6	147.4	129.8	136.0	130.6	136.8	175.8	158.7	141.5	139.4	133.5
1959-60	126.2	152.8	128.9	120.8	127.9	125.3	132.4	137.4	153.3	135.0	130.3
1960-61	136.2	162.7	136.6	128.6	135.6	128.0	203.3	121.6	173.9	147.9	139.7
1961-62*	139.0	178.3	140.0	120.3	137.5	134.4	170.2	193.8	163.7	149.2	141.4
1962-63*	127.9	164.9	133.0	119.7	131.3	133.6	200.4	163.9	151.2	148.0	136.8

*Provisional

Sources Growth Rates of Agricultural Production (All-India and States), Economic and Statistical Adviser, Ministry of Food and Agriculture, Government of India (1964), Appendix 1.2, *Agricultural Situation in India,* Vol XVIII, No 5, August (Annual Number), 1963, pp 369-370

N B Coverage of the index numbers of agricultural production is limited to 28 principal crops large areas and floods and droughts. Despite these adverse weather conditions, the overall agricultural production reached a peak level in 1961-62 and its index rose to 141.4. But agricultural production received a set-back in 1962-63 and according to provisional estimates, the index of agricultural production declined to 136.8. Decline in production was more marked in the foodgrains group than in non-foodgrains. The index of foodgrains production sharply declined from 137.5 in 1961-62 to 131.3 in 1962-63 while that of non-foodgrains production came down from 149.2 to 148 during the same period. Rice, wheat, cotton, jute and sugarcane were the major crops which received a set-back in production.

The sharp year to year fluctuation in agricultural production poses a problem for calculating the growth rate of agricultural production. The usual method of assessing the growth rate by reference to the increase in production from the commencement to the termination of successive Five-Year Plans may not give a correct idea of the state of progress as the same will be affected by the seasonal conditions during the first and the last years of the Plan. In view of this, a more scientific method would be to estimate the annual linear rates of increase in production by fitting regression equations to the three-year moving averages of production. Here again, the choice of the base year presents some difficulties. 1950-51 and 1951-52 were very bad years from the view of weather conditions. If the unsuitability of these years as the base year is accepted, the choice is to adopt the year 1949-50 as the base year, as is done in calculating the index numbers. Another option would be to compute the growth rates from the period beginning from 1952-53. The calculations based on this alternative are given in Table II though we shall be making use of the 1949-50 base for assessing the rate of progress in the first and the second half of the period under review.

GROWTH RATES UNDER THE FIRST AND THE SECOND PLAN

The overall linear rate of growth of agricultural production comes to 3.23 per cent per annum. Judged in the light of comparisons of the historical and contemporary experience of other countries, this rate of growth is quite impressive. It should,

TABLE II

ALL-INDIA LINEAR RATES OF GROWTH IN AGRICULTURE 1952-53 TO 1961-62

(Average 1952-53 to 1954-55 = 100)

Crop/Group	Production (per cent)	Area* (per cent)	Productivity (per cent)
Rice	3.29	1.49	1.63
Jowar	1.55	0.16	1.40
Bajra	(—)0.27	(—)0.60	0.42
Maize	2.74	2.88	(—)0.07
Wheat	4.24	3.07	0.94
Total Cereals	2.79	0.91	1.77
Gram	3.04	2.47	0.50
Total Pulses	1.75	1.96	(—)0.17
Total Foodgrains	**2.66**	**1.10**	**1.45**
Groundnut	4.91	5.05	(—)0.25
Rapeseed & Mustard	4.67	3.56	0.97
Total Oilseeds	3.29	2.78	0.46
Cotton	1.87	0.72	1.02
Jute	4.82	3.74	0.88
Total Fibres	3.17	1.09	1.79
Tea	2.41	0.78	1.57
Coffee	15.15	3.71	9.04
Sugarcane	8.56	6.16	1.66
Total non-foodgrains	**4.40**	**2.38**	**1.74**
All Crops	**3.23**	**1.31**	**1.76**

Source: Growth Rates of Agricultural Production (All-India and States), Economic and Statistical Adviser, Ministry of Food and Agriculture, Government of India (1964).

* *Note*: Calculations of growth rates are based on Index Number Series, which claims to have eliminated the increase due to extension of statistical coverage. Doubts have been expressed regarding this having been done in the case of the Area Index. According to the growth rate figure given in this Table, the area during the First Plan increased by about 12.5 per cent (The Index for Area in 1955-56 is given as 115). In absolute number this increase would amount to about 45 million acres — excluding the increase in coverage. Figures of land reclamation given by the Government for the period do not exceed 5 to 6 million acres. It is difficult to believe that the rest of the increase was due to the farmers' efforts at reclamation and increase in double cropping. And why did this effort suddenly stop in the Second Plan period? Therefore, there is reason to think that a part of the statistical coverage increase has crept into the Index Number. This has inflated the denominator for the calculation of the increase in productivity (Index of Production — Index of Area). *Vide* M. L. Dantwala, "Economic Development and the Role of the Agricultural Sector in India," *Op. cit.*

however, be noted that nearly half of this increase was contributed by the expansion in the area under cultivation It is obvious that under conditions in India, it would be unrealistic to expect a similar rate of contribution to agricultural production through expansion of area in future Apprehension has, therefore, been expressed that once this contribution ceases, the growth rate is likely to be much slower than that experienced during the last decade It is, therefore, necessary to examine this problem a little more closely This can be done by dividing the period under consideration in two parts the First Plan (but with the base year 1949-50) period and the period of the Second Plan (1955-56 to 1960-61) Table III gives the annual average rate of increase

TABLE III

ANNUAL AVERAGE INCREASE OR DECREASE IN PRODUCTION, AREA AND IN PRODUCTIVITY OF IMPORTANT CROPS IN THE FIRST AND THE SECOND FIVE-YEAR PLANS

(In percentages)

Crops	First Plan			Second Plan		
	Production	Area	Productivity	Production	Area	Productivity
Rice	+2 4	+0 5	+1 8	+3 9	+1 2	+2 5
Jowar (*Sorghum*)	−0 6	+1 9	−2 2	+7 8	−0 1	+8 1
Wheat	+5 2	+4 5	+0 6	+4 8	+1 0	+3 0
All Cereals	—	+1 8	+0 6	—	+0 6	+3 0
Pulses	+3 1	+2 8	+0 2	+1 7	neg	+1 8
Foodgrains	+2 6	+2 0	+0 5	+3 5	+0 5	+3 0
Groundnut	+2 1	+4 9	−2 2	+4 3	+4 4	−0 1
Oilseeds	+1 4	+3 2	−1 5	+4 2	+2 4	+1 6
Sugarcane	+3 3	+4 2	−0 7	+9 0	+5 4	+2 9
Cotton	+9 0	+10 7	−1 0	+6 3	−1 1	+8 0
Jute	+6 0	+8 2	−1 5	−2 1	−2 6	+0 6
Non-Foodgrains	+3 3	+5 1	−1 4	+4 8	+1 3	+3 3
All Group	+2 8	+2 5	+0 3	+4 0	+0 6	+3 2

Source *Agricultural Situation in India*, Vol XVIII, No 4, July, 1963, pp 185-186 in production, area and in productivity of important crops in these two periods. It should, however, be mentioned that since the increase (or decrease) has been calculated by reference to particular years, the result may have been affected by the weather conditions in those particular years. The decrease in jowar production, for example, in the First Plan reflects a severe damage to that crop in 1955-56, the last year of the Plan.

It will be seen that whereas during the First Plan, the area increased at the rate of 2.5 per cent per year, during the latter half, the rate of increase had already dwindled to 0.6 per cent. In contrast, the increase in productivity was 0.3 per cent per year during the First Plan and 3.2 per cent per year during the Second Plan. This clearly shows that there was a marked step-up in productivity in agriculture during the Second Plan and this increase was sufficient to make up for the decline in the rate of the expansion of the area under cultivation.

FOODGRAINS AND NON-FOODGRAINS PRODUCTION

For more detailed analysis, we may revert to Table II. First, regarding production, it is apparent that the growth rate for non-foodgrains (4.40) was higher than that for the foodgrains (2.66). But the variations within each group are also quite marked. Thus, in the non-foodgrains group, the annual rates of increase for sugarcane (8.56) and for jute (4.82) are substantially higher than those for oilseeds (3.29), and particularly for cotton (1.87). Within the foodgrains group, the variations are not so large, except for jowar for which the rate of growth was low (1.55).

The extension of the area under cultivation has made a significant contribution to the increase in the production of most of the crops. Once again, the contribution of the extension of area was larger for the non-foodgrains group (2.38) than for foodgrains (1.10). Extension of area would depend primarily on the availability of the uncultivated but cultivable land in a particular region. Thus, it is found that the annual percentage increase in area varied between 4.17 for Rajasthan and 2.94 for Punjab to 0.17 in Maharashtra and 0.32 in Assam. In fact, the annual rate of increase in area exceeded 1 per cent only in five States, *viz.*, Rajasthan, Punjab, Bihar, Madhya Pradesh and Mysore. Subject to the limitation of the availability of reclaimable area, the allocation of the additional land between different crops would probably be governed by the profitability of the cultivation of the crops suitable for the area This, in its turn, will depend in a large measure, on the relative changes in the prices of these crops

Regional Variations in Production

Within the foodgrains group, the annual increase in the area between 1952-53 and 1961-62 was largest for wheat (3 07 per cent) and was distinctly lower for rice (1 49 per cent) The larger increase in the area under wheat may be partially explained by the fact of relatively larger increases in area under cultivation in the predominantly wheat-growing regions like the Punjab, Madhya Pradesh and Rajasthan The predominantly rice-growing areas like Orissa, West Bengal, Madras and Andhra had very modest increases in the area under cultivation Within each region, however, the distribution of the additional land between various crops was probably governed by the relative changes in the prices of substitutable crops This may be judged indirectly by reference to the relative increases in the production of foodgrain and non-foodgrain crops in some of the States The linear growth rates of production of all crops, foodgrains and non-foodgrains, in different States during 1952-53 to 1961-62 are given in Table IV

It will be seen that as in the case of all crops, there are considerable variations from State to State, in the growth rates of the two major groups of crops, namely, foodgrains and non-foodgrains. Even within the same State, growth rates of the two groups have been quite divergent in some cases In Gujarat and West Bengal which recorded an annual increase of 2 20 and 0 89 per cent respectively in the production of all crops, there was a decline in the production of foodgrains to the extent of 1 12 and 0 21 per cent respectively[2] In contrast, there was an increase in the non-foodgrains production of as much as 7 03 per cent in Gujarat and 3 48 per cent in West Bengal In Gujarat, the production of groundnut whose prices have been very high throughout the decade, has increased at an annual rate of 10 61 per cent In West

---

[2] The first two years of the period for both the States were abnormal The percentages derived after ignoring these two years are given in Table IV

TABLE IV

STATE LINEAR RATES OF GROWTH OF AGRICULTURAL PRODUCTION DURING 1952-53 TO 1961-62

(Average 1952-53 to 1954-55 = 100)

	States	All Crops	Foodgrains	Non-Food-grains
1	Punjab	5 67	4 57	8 96
2	Madras	5 01	4 53	5 86
3	Madhya Pradesh	3 64	3 53	4 52
4	Mysore	3 56	2 86	5 23
5	Bihar	3 40	3 35	3 76
6	Rajasthan	2 92	2 59	4 41
7	Maharashtra	2 72	2 17	3 91
8	Kerala	2 44	4 05	1 82
9	Uttar Pradesh	2 23	1 58	4 57
10	Gujarat	2 20 (3 11)	(—)1 12 (0 42)	7 03 (6 17)
11	Andhra Pradesh	1 89	3 28	(—)1 06
12	Assam	1 33	0 40	2 11
13	Orissa	1 18	1 44	(—)0 33
14	West Bengal	0 89 (3 13)	(—)0 21 (1 49)	3 48 (7 16)
	All-India	3 23	2 66	4 40

N B Figures in brackets represent growth rates for the period 1954-55 to 1961-62 with 1954-55 to 1956-57 as 100

Source Growth Rates of Agricultural Production (All-India and States), Government of India, *Op cit*, Appendix 5 3

Bengal, production of jute increased at the annual rate of 4 75 per cent[3] Even in those States where the annual increase in the production of foodgrains was relatively high, the increase in the non-foodgrains production was even higher. Thus, in the Punjab, as against an annual increase of 4 57 per cent in foodgrains production, the increase in non-foodgrains production was as much as 8 96 per cent; much of it was accounted by an increase in the production of sugarcane The only States in which the rate of increase in production of foodgrains was larger than that of non-foodgrains are Kerala (4 05 and 1 82), Andhra Pradesh (3 28 and (–) 1 06), and Orissa (1 44 and (–) 0 33)

---

[3] Growth rate during the period 1954-55 to 1961-62 with 1954-55 to 1956-57 as 100, works out to 8 84 per cent Growth Rates of Agricultural Production (All-India and States), Government of India, *Op cit*, p 47.

It is not possible to establish any precise association between increases in area (and production) with the relative changes in the prices of different crops In Andhra Pradesh, it was obviously more profitable to increase production under rice at the cost of reducing the acreage under groundnuts In contrast to this, Gujarat found it more profitable to increase the production of groundnuts in preference not only to foodgrains but also to commercial crops like cotton It would, however, appear that all the States which could grow sugarcane, did substantially increase both the acreage and production of this crop, resulting in the highest increase (8 56 per cent) in all-India rates of production In no small measure this can be attributed to the relatively higher prices of sugarcane with a guaranteed minimum Similarly, the two States which could grow jute, *viz*, Bihar and West Bengal, increased its cultivation substantially and in preference to the food crops In contrast, except Mysore, and, to some extent, Punjab and Madras, there has not been much interest in expanding the production of cotton It is difficult to say to what extent the fixation of floor and the ceiling prices for cotton was responsible for this lack of enthusiasm The feeling that the ceiling prices of cotton have been kept artificially low has grown in recent times

Yield Trends

Another and probably more reliable information regarding the yield trends in respect of two commodities, rice and wheat, is available from a study conducted by Dr V G Panse[4] The study is based on a series of data on the yield of food crops based on random sampling crop-cutting surveys The all-India estimates are based on these surveys One important feature of this study is an attempt to measure the effect of weather factors on yields and eliminate the same to the extent possible from the estimates of yield trends. The results of this study comprising three distinct periods, *viz.*, pre-Plan, First Plan and Second Plan, are given in Table V.

---

[4] "Yield Trends of Rice and Wheat in First Two Five-Year Plans," *Journal of the Indian Society of Agricultural Statistics*, Vol XVI, No 1, 1964

TABLE V

AVERAGE YIELD PER ACRE

(in lbs.)

India/Important States (1)	Pre-Plan (1946-47-1950-51) (2)	First Plan (1951-52-1955-56) (3)	Second Plan (1956-57-1960-61) (4)	Difference (3)—(2) Average % per Year (5)	Difference (4)—(3) Average % per Year (6)
			Rice		
All-India	743	783	863	**1.1**	**2.0**(2.2)*
Madras	881	1,024	1,184	3.2	3.1(3.5)
Andhra Pradesh	1,009	1,164	1,286	3.1	2.1(2.4)
Uttar Pradesh	513	480	543	—1.3	2.6(2.9)
West Bengal	833	922	936	2.1	0.3(0.3)
Mysore		(1,051)	(1,271)		(4.0)
			Wheat		
All-India	604	675	676	**2.4**	**0.02**
Uttar Pradesh	661	729	745	2.1	0.4
Punjab	879	925	919	1.0	—0.1
Madhya Pradesh	394	493	457	5.0	—1.5
Bihar	488	531	494	1.8	—1.4

*Figures in brackets refer to Series II available from the First Five-Year Plan.

It will be seen from Table V that in regard to rice, plan effort has made a definite impact on yield, the average country-wide yield being higher by 40 lbs. per acre during the First Plan and by 80 lbs. per acre further during the Second Plan. The inclusion of certain new areas (Series II) for which data for the earlier period are not available, gives a somewhat higher figure of increase. Madras and Andhra Pradesh have shown the largest and the most consistent increase in the per acre yields of rice. The increases are large enough to retain their significance even after discounting for annual climatic variations. No other States showed such positive increase in the yield during the First Plan. West Bengal did show an average increase of 89.5 lbs. per acre during the First Plan over pre-Plan period, but this did not prove significant when tested against the annual variations in the yields This conclusion is borne out by the fact that there was no further increase in the State during the Second Plan

In contrast to rice, there is no evidence of any consistent increase in the yield of wheat per acre in any State either in the First or Second Plan, though the average country-wide yield for five States — Punjab, Uttar Pradesh, Bihar, Madhya Pradesh and Bombay — does show an increase of nearly 12 per cent in the First Plan over the pre-Plan yields. One possible explanation of this increase is that the wheat harvest in some of the years in the pre-Plan quinquennium was badly affected by a severe rust epidemic which kept the yields at a comparatively low level If so, the increase during the First Plan period does not necessarily reflect the impact of Plan effort Once again, this observation is borne out by the fact that the average yield in the Second Plan period showed no progress on the country-wide basis On the contrary, there was a decrease of 37 and 36 lbs per acre in Bihar and Madhya Pradesh which, however, could be attributed to adverse climate

Agricultural Production in Other Countries

It would be useful to compare the progress in agricultural production in India with that in other countries of the world Table VI gives the growth rates of agricultural production and food production for different countries during 1952-53 to 1961-62 It will be seen that the growth of agricultural production and foodgrains production compares favourably with some of the countries in the Far East and in Europe The performance of countries like Japan, Philippines and Thailand points to the scope for stepping up the rate of growth in India

CONCLUSION

The Third Five-Year Plan has targetted for an increase in agricultual production of the order of 30 per cent, as against an increase of 35 per cent during the ten years preceding it Projections made in the Third Five-Year Plan anticipate a rise of another 25 per cent during the Fourth Plan period[5] Thus over

---

[5] Report on the Third Five-Year Plan, Planning Commission, Government of India (1961), p 29

TABLE VI

LINEAR GROWTH RATES OF AGRICULTURAL PRODUCTION IN DIFFERENT COUNTRIES OF THE WORLD

1952-53 TO 1961-62

(Average 1952-53 to 1954-55=100)

Countries	Agricultural Production (per cent)	Food Production (per cent)
Far East		
India*	3 23(3 06**)	2 66(3 12**)
Burma	2 01	2 33
Malaya	3 82	5 49
Indonesia	1 37	1 60
Japan	4 62	4 84
Pakistan	1 59	1 63
Philippines	3 90	3 53
Thailand	3 92	3 35
Near East		
Turkey	4 71	4 73
U A R	3 88	3 21
North America		
Canada	0 74	1 33
U S A	1 66	2 16
Europe		
France	2 64	2 68
Germany, Federal Republic	2 23	2 22
Italy	2 33	2 56
U K	2 19	2 15
Oceania		
Australia	3 94	3 32
New Zealand	3 80	3 07

Source Production Year Book 1962, Vol 16, Food and Agriculture Organization of the United Nations (1963), pp 29-30

*Growth Rates of Agricultural Production (All-India and States), Government of India, *Op cit*, p 27

**F A O estimate

the decade 1961-70, an increase of over 55 per cent in agricultural production is envisaged This means that the increase in agricultural production during 1961-70 needs to be stepped up by about twice the rate achieved during the preceding decade As mentioned earlier, nearly half the increase in agricultural production during the last decade was the result of an increase in the area under cultivation The scope for increasing output by increasing the area under cultivation in the future is only marginal Efforts will have therefore to be directed towards increasing agricultural production through increased productivity. The prevailing low yields do offer great scope for improvement. The next chapter discusses in detail the measures for increasing agricultural production.

CHAPTER V

CROP PRODUCTIVITY — PROBLEMS AND PROGRAMMES FOR IMPROVEMENT

A basic objective of economic policy for agriculture is to increase its productivity In a large measure, this would depend upon the application of scientific research to all agricultural operations The main factors influencing productivity are (a) the use of improved seeds, (b) control of pests and diseases, (c) provision of irrigation facilities, (d) prevention of soil erosion, (e) use of manures and fertilizers, (f) improved tools and implements, (g) better systems of cropping, in particular, better rotations and use of more fodder crops. These factors have to be viewed together in any effort designed to increase production Even the limitations of season and climate can be overcome in some measure by selecting suitable techniques[1]

In the post-war period, especially with the inception of planning for agricultural development, concerted efforts are being made to improve techniques of production and to raise productivity in agriculture. The principal programmes in this respect are reviewed below.

IMPROVED SEEDS

The most outstanding achievement of modern agriculture is the production of improved varieties of seed for different crops In India the cultivator is generally well aware of the importance of good seed, at least in the matter of improved seeds, the apathy of the cultivator cannot be said to be the reason for the comparatively small area under improved varieties

The Indian Council of Agricultural Research has devoted considerable attention to the introduction of improved varieties of seeds But, the efforts till recently were mostly confined to cash crops such as cotton, sugarcane, etc With the exception of wheat, the main foodgrains — rice, millets and pulses — are still grown chiefly from the indigenous traditional varieties Even in the last year of the Second Five-Year Plan (1960-61), only 20 per cent of total area under food crops was estimated to be covered with improved seeds[2] A recent sample study by the Programme Evaluation Organisation (1961) estimates the percentage of area under improved seeds at 25 per cent for paddy and 50 per cent for wheat The percentage was only 13 for jowar[3] It is estimated that normally 5 to 10 years are required for placing the entire area of a crop under improved varieties through organised multiplication and distribution of seeds[4] But the best results from the improved seeds generally are obtained only with a more liberal manurial treatment than what is needed for the traditional varieties If this could be arranged, it should be possible to effect a 10 to 15 per cent increase in yields[5] The Extension Services now in operation and their expansion to cover all the villages will make rapid progress possible in this direction.

---

[1] See Factors Affecting Rice Production, Food and Agriculture Organization of the United Nations, Agricultural Development Paper, No 45 (1954), p 27

Multiplication and Distribution of Improved Seeds

Though arrangements for distribution of improved seeds, sometimes treated with sulphur to prevent misuse, have been made in some States, only in the Punjab has the Government assumed responsibility for supplying improved seeds to cultivators through authorised agents The Punjab Improved Seed and Seedlings Act, 1950, makes it incumbent on cultivators in any notified area to use only the improved variety sold by authorised agents on behalf of the Department of Agriculture Such agents can stock no other variety of seed except the improved one The officers of the Department are empowered to enter any field for the purpose of ascertaining whether improved varieties are being grown or not As a result, the area under improved varieties in the Punjab under all crops is relatively large In other States, steps have been taken to encourage the use of improved varieties by the distribution of better yielding strains at reasonable prices Establishment of seed farms in all development blocks to meet the requirements of foundation seed of improved varieties was one of the principal programmes undertaken in the Second Plan In all, about 4,000 seed farms are reported to have been set up by the end of the Second Five-Year Plan and about 800 more are expected to be established in the early years of the Third Plan It is also proposed to set up seed testing stations for ensuring quality of seeds issued by the seed farms The Planning Commission has reviewed the progress so far achieved and has again stressed the need for improvement in the system of seed multiplication and distribution The problem is one of evolving varieties of seed suitable for the different climatic and ecological conditions in the various regions of India and of making such seed available to the farmer on a dependable basis In the Third Plan period, special efforts will be made for propagation of high-yield hybrids of maize and jowar It has been observed that with moderate amount of nitrogenous fertilizers, the maize hybrids would yield more than twice the yield of local varieties A target of bringing 25 per cent of the maize area under hybrid varieties is fixed for the Third Plan The area under foodgrains covered by improved seeds in the country as a whole is estimated to increase from 55 million acres or 20 per cent of the total area under foodgrains in 1960-61 to 203 million acres by the end of the Third Plan[6] The area under improved seeds of foodgrains increased by 22 million acres in 1961-62 and 1962-63, and is estimated to increase by 17 million acres in 1963-64 The success in this direction will, however, depend on the efficiency with which production, multiplication and distribution of improved seeds are organised The estimated area under important crops covered by improved seeds in 1957-58 is shown in Table I The experience gained so far indicates that the size of seed farm should be at least 50 acres, to fully realise economies of scale[7] It is also necessary to secure better co-ordination between the activities of registered growers entrusted with the multiplication of improved varieties of seed and the agencies in charge of distribution

---

[2] Study of the Multiplication and Distribution Programme for Improved Seed, Programme Evaluation Organisation, Planning Commission, Government of India (1961), p 19

[3] *Ibid*, pp 153-174

[4] Report on Seed Multiplication Schemes (India), Committee on Plan Projects, Government of India (1961), p 2

[5] *Ibid*, p 2

---

[6] Report on the Third Five-Year Plan, Planning Commission, Government of India (1961), p 312

[7] Report on Seed Multiplication Schemes (India), *Op cit*, p 62

TABLE I

ESTIMATED AREA UNDER IMPROVED SEEDS FOR DIFFERENT CROPS IN 1957-58

(in million acres)

Crop	Area
Rice	16 6
Wheat	18 6
Jowar	8 8
Bajra	2 9
Barley	4 9
Ragi	3 7
Small Millets	1 2

Source Indian Council of Agricultural Research, New Delhi

CONTROL OF PESTS AND PLANT DISEASES

Insects, pests, fungoid diseases and weeds damage crops and nullify the benefits of other improvements such as better seed and better manure The evil has shown signs of spreading with improvement in transport The loss suffered through damage done by diseases and pests to crops at various stages of growth from sowing to harvesting and in storage and transportation is estimated to be 20 per cent of total crop output Nearly 40 diseases and over 85 species of insects are known to attack the rice crop in the field and in storage, the most widely prevalent diseases being blast, helminthos poriose, stem and foot rot and pests being stem borers, gall flies, grass hoppers and caterpillars As regards wheat, millions of tons of wheat were destroyed by the vast epidemic rust in 1947 and 1954. In 1950 and 1957, the potato disease attacked this crop over wide areas in Bihar, Uttar Pradesh and Punjab causing a loss of over 50 per cent of the crop.

Some amount of pioneering work has been done by the State Agricultural Departments and the Indian Agricultural Research Institute in the study of life habits of important pests and the methods of control of certain diseases. Another field in which systematic investigations have recently been started is the quantitative estimates of the incidence of pests and diseases on crops.

The Indian Council of Agricultural Research is currently engaged in conducting a study on the problem of incidence of stem borer and gall fly, etc., on rice.[8]

The Plant Protection Organisation at the Centre consists of a Directorate with the Plant Protection Adviser as its head and three main divisions: (i) Entomology, (ii) Plant Diseases and (iii) Quarantine. The Directorate advises the States on the control of various diseases and pests and helps them in setting up plant protection organisations in their areas. Locust control work is also its responsibility. The primary function of the organisation at the Centre and in the States is to fight outbreaks in epidemic form. It also undertakes investigations of plant diseases and pests and the prescription of measures for their eradication.

The methods of control adopted for preventing damage to crops can be classified under four categories: (i) quarantine, *i.e.*, the prevention of entry of plant and animal pests from countries outside India, (ii) biological control, *i.e.*, employment of an insect to check the development of another insect, (iii) cultural methods, *i.e.*, variation in cultural practices such as the introduction of resistant varieties of crops, changes in rotation, time of sowing of plant, deep and shallow cultivation, giving or withholding of irrigation, etc., and (iv) chemical treatment. In the past, owing to lack of efficient quarantine arrangements, injurious insects and pests frequently entered the country and spread widely. Recently, quarantine and fumigation stations have been set up at Madras, Calcutta and Bombay. Plant quarantine measures are also being devised to prevent spread of diseases and pests through inter-State movement of plant materials. The biological control and pest control methods have been adopted widely against sugarcane borers and nepanthes of coconut in the south. As regards cultural methods, changes in the time of sowing have considerably helped in protecting wheat from the hessian fly and cotton from the tirak disease. Disease resistant varieties of wheat, rice and potato are being successfully developed and adopted. In recent years, the use of insecticides and fungicides like chlorinated hydrocarbon compounds and organo-phosphorous compounds has grown considerably. Many antibiotics have been used to control bacterial plant diseases Measures against the locust menace, which causes considerable damage to crops in the north-western and western parts of India, are being taken by the Central Locust Organisation in the form of spraying and dusting of chemicals on a large scale in the breeding areas To intensify these measures, aeroplanes, helicopters and other equipment are being obtained under the Technical Assistance Programme In 1963-64, the Aerial Unit of the Directorate of Plant Protection and the aircrafts of private firms sprayed 93,572 acres against pests and diseases

---

[8] Annual Report of the Indian Council of Agricultural Research, 196[illegible]

On the whole, however, over the past decade, plant protection measures have lagged behind other agricultural programmes In the Second Plan, the programme is estimated to have covered about 16 million acres of land which is estimated to increase to about 50 million acres during the Third Plan[9] Since the increase in the area benefited by plant protection measures was only a little over one million acres in the first two years of the Third Plan, it is necessary to pursue a more vigorous programme for plant protection through adequate supply of manually operated sprayers, dusters and pesticides to farmers and their organisations

IRRIGATION

The most important factor for improving yields is adequate and timely water supply The total irrigated area in 1960-61 was only 68 6 million acres or 21 per cent of net area sown of about 320 million acres Even in irrigated areas, water is sometimes in short supply resulting in delayed planting and causing losses amounting to 20 to 30 per cent of normal yields[10] In regions of heavy rainfall, absence of proper drainage facilities causes erosion of soil In areas of low rainfall, yields are kept down for want of sufficient nutrients in the soil, manures and fertilizers can do little good in the absence of adequate water supply

Evolution of Government Policy

The attention of the Government to the need for irrigation works was drawn sharply by the various famines during the 19th century, but Government was reluctant upto the end of the century to face up to the question in all its seriousness, mainly out of consideration of cost Their policy was to develop productive irrigation works and to neglect protective ones It was in 1901 that the Irrigation Commission emphasised the protective value of irrigation works and pointed out that the indirect savings they may bring about by reducing the cost of famine relief, and by obviating the need for remissions of the land revenue, etc., would often make up for the expenditure on such works More than this, however, the Commission argued that "the expenditure which the Government may legitimately incur on famine prevention cannot be limited by a consideration of the reduction in the future cost of famine to the State which will result from such expenditure" and that "a much higher scale of expenditure may be justified for the sake of saving the inhabitants of insecure tracts from all the losses and demoralization and miseries of famine"

---

[9] Report on the Third Five-Year Plan, p 313

[10] Agricultural Legislation in India, Vol III—Agricultural Production and Development, Government of India (1952), p. viii.

As a result of the above recommendations, fresh Provincial surveys were made and a large number of new irrigation projects was undertaken Till 1919, all the irrigation projects in India were controlled by the Government of India and were sanctioned with the approval of the Secretary of State Under the Reforms of 1919, irrigation was classed as a Provincial subject Since then, there has been greater activity in regard to irrigation and several projects have been undertaken The Sutlej-Valley works were sanctioned in 1921-22 and were completed in 1932-33 at a cost of Rs 33 31 crores In Bombay, the Bhandadhara Dam and the Lloyd Dam at Bhatgar were completed in 1925 and 1926 respectively In U P the Sarda Canal was opened in 1928 and it irrigates about 8 5 lakh acres The Cauvery-Mettur project, started in 1925 and completed in 1934 at a cost of Rs. 737 lakhs, serves an area of 1 3 million acres This scheme also includes supply of hydro-electric power for industrial purposes

The advent of Independence provided the necessary impetus for the evolution of a national policy in irrigation The need to strengthen efforts in developing irrigation was further emphasised by the fact that with the partition of the country in 1947, major portion of the irrigated area and area under rice, wheat and jute went over to Pakistan and thereby disproportionately reduced their production within the country This gave added impetus to the expansion of irrigation, from large as well as small projects as a necessary condition for diversifying agriculture and increasing crop yields This recognition was given immediate effect with the initiation of planning for the all-round development of the country This is evident from the financial provisions made for irrigation during the three Plan periods

The First Plan allotted Rs 400 crores or about 20 per cent of the total plan outlay for irrigation[11] Highest priority was given in the First Plan to the completion of the projects already under construction and on which considerable sums of money had already been expended It was not possible, therefore, to include many new works of irrigation in the First Plan In the Second Plan, Rs 571 crores, constituting about 12 per cent of the total plan outlay, were allotted for irrigation But there was a significant change in the nature of the irrigation programme in the Second Plan There was a shift in emphasis from multipurpose to single-purpose schemes, and from major to medium irrigation projects. Thus, as compared to about 9 schemes (including power projects), each costing Rs 30 crores and above in the First Plan, there was not a single scheme in this category in the Second Plan The Third Plan allocated Rs 900 crores or about 12 per cent of the total outlay for irrigation The huge investment involved in major irrigation projects and the slow pace of utilisation of the irrigation facilities created during the First and Second Plans led to the consideration of shifting the emphasis to minor irrigation works at the time of the formulation of the Third Plan[12]

The aggregate estimated cost of major and medium irrigation schemes included in the First and Second Plans is Rs 1,400 crores By the end of the First Plan, an outlay of Rs 380 crores was incurred on these schemes The outlay on these schemes in the Second Plan is estimated at Rs 370 crores In the Third Plan, these schemes will require an outlay of about Rs 436 crores, leaving a balance of about Rs. 214 crores to be carried over in the Fourth Plan. The estimated outlay on new schemes included in the Third Plan is Rs 164 crores, requiring an additional Rs 200 crores in the Fourth Plan for their completion

---

[11] Including flood control

[12] Irrigation projects costing more than Rs. 5 crores each are classed as major schemes and those costing between Rs 5 crores and Rs 10 lakhs as medium schemes Schemes costing Rs 10 lakhs or less are classed as minor schemes provided they do not form part of any existing major or medium scheme

In the First Plan, an outlay of about Rs 85 crores was originally provided for minor irrigation schemes against which the amount actually spent was Rs 45 83 crores In the Second Plan, an outlay of Rs 121 crores was provided for minor irrigation schemes under the Community Development and National Extension Programme and Agricultural Programmes put together However, in 1958, this outlay was revised upwards to Rs 147 6 crores Upto 1959-60, a sum of Rs 106 61 crores or about 72 per cent of the revised outlay was spent on these schemes In the Third Plan, Rs 250 crores have been provided for minor irrigation schemes

Progress in Irrigation

The net area under irrigation, which was 51 5 million acres or 18 per cent of the net area sown in 1950-51, increased to about 68 6 million acres in 1960-61, forming 21 per cent of the net area sown The net area irrigated in 1960-61, represented an increase of 33 per cent over 1950-51 A net area of 89 9 million acres, constituting about 28 per cent of the net area sown, is expected to be irrigated by 1965-66, representing an increase in irrigated area of 75 per cent over 1950-51[13]

During the First Five-Year Plan, it was proposed to bring under irrigation an additional area of 19 7 million acres, 8 5 million acres from multipurpose and major irrigation projects and 11 2 million acres from minor irrigation works Thus, the net area irrigated was expected to increase to 71 2 million acres in 1955-56 from 51 5 million acres in 1950-51 However, at the end of the First Plan, the area actually irrigated was 56 2 million acres Thus only 23 8 per cent of the targeted increase could be achieved As compared to the target of 8 5 million acres from the major and medium projects, irrigation potential amounting to about 6 5 million acres was created, the additional net area irrigated being about 2 9 million acres, representing about 45 per cent of the potential created An additional area of only 1 8 million acres was irrigated from minor irrigation sources The Second Plan had envisaged an additional area of 18 million acres—9 million from major and medium projects and 9 million from minor irrigation works — to come under irrigation The achievement was relatively better for minor irrigation works As compared to an additional net area of 4 7 million acres irrigated from major and medium projects, 7 7 million acres were irrigated from minor irrigation works During the Third Five-Year Plan, an additional area of 20 2 million acres — 11 7 million from major and medium projects and 8 5 million from minor irrigation works — is proposed to be brought under irrigation The additional irrigation potential created under major and medium projects between 1951-52 and 1962-63 was 14 27 million acres (gross), and actual utilisation was estimated at 10 6 million acres or 74 per cent of the potential.[14] The progress in major and medium irrigation during the three Five-Year Plans is indicated in Table II The utilisation of the irrigation potential has improved over the Second Plan

---

[13] The Mid-term Appraisal of the Third Five-Year Plan has revised this estimate to 85 8 million acres

TABLE II

PROGRESS OF IRRIGATION (MAJOR AND MEDIUM SCHEMES) DURING THE FIVE-YEAR PLANS

Year	Actual Area Irrigated (in million net acres)
1950-51	22 0
1955-56	24 9
1960-61	29 6
1965-66 (utilisation expected)	39 6*

*The addition of 10 million acres is the gross

Sources Report on the Third Five-Year Plan, p 382, and The Third Plan Mid-term Appraisal, p 111 from 48 per cent to 71 per cent and is expected to be 80 per cent by the end of the Third Plan[15]

---

[14] The Third Plan Mid-term Appraisal, Planning Commission, Government of India (1963), p 103

By 1958-59, the percentage of gross irrigated area to the total under cultivation was highest in Madras with 42 8, followed by Jammu & Kashmir (42 7) and Punjab (38 8) In the middle range were Andhra (28 9), Assam (25 5), Uttar Pradesh (24 6), West Bengal (22 4) and Kerala (22 9) States where less than 10 per cent of area was irrigated, were Mysore (8 2), Maharashtra-Gujarat (6 1) and Madhya Pradesh (4 8)

Among the various sources of irrigation, minor irrigation works such as tanks, wells, *bhandaras*, etc , constitute the most important source of irrigation. For undivided India, in 1920-21, of the total net irrigated area of 48 9 million acres, 59 per cent was irrigated from minor sources With the development of Government canals in the 'thirties and the 'forties, the proportion of the area irrigated from minor sources declined to 55 per cent in 1930-31 and it further declined to 52 per cent in 1942-43 In 1950-51, 66 per cent of the total net irrigated area of 51 5 million acres was irrigated from minor sources In 1960-61, minor irrigation sources irrigated a net area of 39 million acres, representing 56 per cent of the total net irrigated area. On an average, for the three-year period 1956-57 to 1958-59, of the total irrigated area of 56 7 million acres, wells accounted for about 29 per cent, tanks for 20 per cent, small private canals for 5 6 per cent and other minor sources for 9 5 per cent Major irrigation works accounted for the remaining 35 9 per cent of the area irrigated

In the immediate programme of extension of irrigation, small and medium irrigation works have an important part to play

---

[15] At the time of formulation of the Third Plan, the State Governments had estimated that a potential of 13 2 million acres (gross) would be created by the end of the Second Plan with a utilisation of 10 million acres Achievement subsequently reported was a potential of 12 09 million acres and a utilisation of 8 59 million acres (gross) The target for additional potential and utilisation in the Third Plan was 16 3 million acres and 12 8 million acres respectively Recent estimates of State Governments place the likely achievements at 11 1 million acres of potential and 10 million acres of utilisation On this basis, the shortfall would be 5 2 million acres and 2 8 million acres respectively See Third Plan Mid-term Appraisal, *Op cit*, pp 102 and 111

They have some definite advantages They involve smaller capital outlay and can be executed in a much shorter period It is, however, necessary to note some of the drawbacks of medium and minor modes of irrigation such as tube-wells, tanks and wells With tube-wells, it becomes uneconomical to locate them away from the main hydel-line Tanks in many regions tend to get silted necessitating desilting at regular intervals In regions where the water-table is not sufficiently high, sinking of wells may prove a disproportionately costly proposition An important drawback of medium and minor modes of irrigation arises out of their small catchment area In years of low rainfall when the need for irrigation is urgent, they may fail to provide irrigation water in sufficient quantities

SOIL CONSERVATION

The best possible use of land and water, on the basis of ascertained knowledge on topography and climate, for the maximum benefit of society, has come to be known as soil conservation[16] Soil erosion is an old phenomenon in this country and has left its mark over wide tracts and contributed to low productivity The pressure of increasing population and indiscriminate encroachment on the natural protection of the soil have let loose the forces of destruction

The factors responsible for soil erosion are: (1) deforestation, (2) over-gazing, (3) ploughing or clean cultivation of sloping land and (4) burning of forest as in *jhuming* — shifting cultivation Erosion occurs not only in areas of heavy rainfall but also in dry regions The problem is to reduce the velocity and the amount of water running off the surface

It is estimated that in the country as a whole about 200 million acres, that is, almost a fourth of the country's land surface suffers from erosion[17] On the whole, about 2 per cent of surface soil is lost every year through erosion[18] According to agricultural experts, about 60 per cent of the rural areas in the Punjab are affected by soil erosion[19] The survey of 50,000 acres carried out in the erstwhile Bombay State also disclosed that only 17 to 23 per cent of the area is not affected by erosion, while 60 per cent is affected so seriously that only 9 inches of the top soil is left[20]

---

[16] Soil conservation is sometimes taken to mean prevention of deterioration or protection from destruction rather than a positive change for the better But the term has a positive connotation, *viz*, the best possible use of land and water

[17] Report on the Third Five-Year Plan, p 367

[18] Paper read by Captain V M Chavan, before the meeting of the Crops and Soils Wing, Indian Council of Agricultural Research, March, 1950

The problem exists in almost all States In Gujarat, there is the problem of arresting the onward march of the Kutch and Rajasthan deserts and of preventing the big rivers from cutting into fertile alluvial soil on their banks and forming what are called *Kotars* In the Deccan and Karnatak, the land is undulating and measures have to be taken mainly to prevent sheet erosion and gully formation Over a large part of India, the people have accepted a slowly deteriorating environment as a part of the scheme of things, the vast majority is unaware that erosion is slowly eating into the soil[21]

The measures for controlling erosion and restoring the productivity of eroded land can be broadly grouped into four types (1) regulation of land use in accordance with physical characteristics, (2) afforestation and preservation of forests by scientific forest management, (3) improvement of land use practices which include such measures as putting the upper slopes into grass, ploughing along the contours and strip cropping on sloping lands, proper crop rotations, application of adequate manure and fertilizers, care of fallows and other uncultivated lands and (4) engineering measures such as construction of bunds and terraces, check dams, channels for drainage of surplus water, gully plugging, etc

The forest and agricultural departments in India have some achievements to their credit in initiating measures for control of soil erosion, but the problem has not been tackled so far on a comprehensive basis The Russell report observed that protection against erosion should be the responsibility of Government, it should not be left entirely to the individual It also recommended the holding of annual soil conferences where experts in forestry, animal husbandry and soil could meet and discuss the problems of different areas and suggest suitable remedies[22] The Crops and Soils Wing of the Indian Council of Agricultural Research (ICAR) has done considerable work along these lines

---

[19] *Irrigation and Power*, Volume IX, No 2, April 1952, p 161

[20] Proceedings of the U N Scientific Conference on Conservation and Utilization of Resources, Vol VI Land Resources (1951), p 127

[21] G V Jacks and R O Whyte The Rape of the Earth (1939), pp 86-88

Since Independence, soil conservation has received a prominent place in agricultural improvement programmes The Planning Commission has recognised that a large part of the soil conservation work has to be done ultimately by the farmers For this purpose, it has envisaged a Central Organisation as well as corresponding State Organisations to aid in the dissemination of knowledge about the nature of the erosion problem to the farmers so as to enlist their active participation in the programmes for controlling erosion Improvement in farming practices is one of the measures of control which depends entirely on farmers Government can only convince them of the need for such improvement through demonstration of the correct methods. It must be emphasised that soil conservation involves co-ordinated and co-operative endeavour It is no use one man constructing bunds in his field if that field is unprotected from the wash delivered on it by untreated land above This is also true of many other improvements such as use of pesticides.[23]

Several States have passed legislation for ensuring that the necessary action is taken by the owners of land to prevent soil erosion and to facilitate land improvement. The solution of the problems of soil erosion is linked with adequate provision of grazing areas, enclosures to prevent indiscriminate grazing and wider introduction of fodder crops which in turn would mean not only an improvement in livestock but also more manure and therefore greater fertility In the Second Plan, about Rs 18 crores were spent on carrying out soil conservation works During the First and the Second Plan, soil conservation measures were carried out over an area of 3 2 million acres of agricultural land The main item was contour-bunding and terracing which made good progress in the erstwhile Bombay State, benefiting an area of about

---

[22] Sir John Russell Report on the Work of the Imperial Council of Agricultural Research in Applying Science to Crop Production in India, Government of India (1937), p 57

[23] See Dr Burns Technological Possibilities of Agricultural Development in India (1944), p 120

2 million acres About 12 million acres of land were also surveyed under an integrated All-India Soil Conservation and Land Use Survey

The Third Plan envisages considerable expansion in soil conservation works The planned outlay is Rs 73 crores and the programmes include contour-bunding of 11 million acres and extension of dry farming techniques to about 22 million acres[24] In the first two years of the Third Plan, soil conservation work was undertaken over an area of 2 4 million acres An additional area of 1 8 million acres would be covered during 1963-64 The programmes for rain water conservation and strip-cropping are also to be emphasised.

MANURES AND FERTILIZERS

The problem of providing adequate quantities of suitable types of organic and inorganic manures has been subjected to much discussion in the last three-quarters of the century As Dr Voelcker emphasised, the problem is not ignorance or apathy on the part of the local cultivators but absence of cheap fuel, on the one hand, and the costliness of the manures and fertilizers, on the other On the first aspect, careful planning is needed by the Forest Department which has to consider the practicability of planting quick growing trees near the villages. As to the second aspect, the technical side of preparing suitable types of chemical fertilizers has been receiving attention from the Government experiment stations The farmer has also to be provided with credit for the purchase of fertilizers and manures

The type of fertilizers needed depends on the soil which varies widely in a country of the size of India A systematic survey of Indian soils has not yet been carried out However, soil experts are of the view that Indian soils are deficient in organic matter — nitrates and phosphates Nitrogen is of primary importance in crop production. The low nitrogen status of Indian soils was recognised as early as in 1880 by Voelcker The 30 years' observations of drainage experiments at Pusa showed that Indian soils might lose about 100 lbs of nitrogen per acre per year through drainage and through crops, and the effect of growing crops was to reduce the loss of nitrogen through drainage[25]

---

[24] More recently, in States like Andhra Pradesh, Gujarat, Madhya Pradesh, Punjab and Uttar Pradesh, larger programmes have been proposed, the revised estimate for the plan period being 27 million acres See Third Plan Mid-term Appraisal, *Op cit*, p 74

Most State Governments have passed legislation making it obligatory on Municipalities and Notified Area Committees to dispose of night soils in the specified way and a steady improvement in the amount of urban compost prepared is noticeable Under the scheme of Community Projects and National Extension Service Blocks, composting of farmyard manure and other waste materials is popularised As compared to the production of 1 6 million tons of urban waste in 1951-52, the production was 2 million tons in 1955-56 and 3 million tons in 1960-61 In addition, sewage and sullage utilisation have been introduced in a number of towns The total volume of rural compost was estimated to reach a level of 155 million tons by the end of the Third Plan, as compared to 66 million tons at the end of the Second Plan The achievement was about 85 million tons in 1962-63. Another most beneficial method by which soil can be conditioned is the growing of leguminous crops and burying them under the soil The latter carry out the natural form of nitrogen fixation. Though the value of green manure has been recognised, it has not become a common practice even in areas where adequate rainfall or ample irrigation facilities are available

Regarding concentrated manure, the principal oil cakes available in the country are · groundnut, sesamum, linseed, cotton seed, castor, *mahua* and neem They contain about 3 to 6 per cent nitrogen and 1 to 2 per cent phosphoric acid As they are valuable as cattle feed, their availability as manure is limited The by-products of slaughter houses which can be usefully conserved by the municipalities through proper tankage methods are horns, hoofs, bloodmeal, meat-meal, pieces of skin, rejected meat, etc Bonemeal is a good form of phosphatic manure About, 1,50,000 tons of bones are collected annually, of which only about one-fourth is converted into bonemeal, and the rest is exported. The Third Plan proposed to bring an additional area of about 40 8 million acres under green manuring As against this target, the area under green manuring increased to 16.2 million acres in 1962-63, as compared to 13.3 million acres in 1961-62. The anticipated achievement for 1963-64 has been 20.5 million acres.

---

[25] Indian Council of Agricultural Research Silver Jubilee Souvenir, 1929-54 (1954), p 60

The use of chemical fertilizers has, of late, increased considerably. The production, imports and distribution of chemical fertilizers since 1952-53 is shown in Table III.

In spite of the increased availability of chemical fertilizers, the gap between supplies and requirements continues to be wide. For example, in regard to ammonium sulphate, "a comparison of the figures of requests for allotments and actual allotments out of the fertilizer pool would suggest that roughly only about one-half of the felt demand is being satisfied."[26] Similarly, the supply of superphosphates in 1959-60 was only 2.4 lakh tons as compared to the minimum requirements estimated at 15 lakh tons. The reasons for the gap between requirements and supplies of fertilizers are to be found in slower growth in domestic production as compared to targets of production and difficulties in importing adequate quantities of fertilizers owing to the paucity of foreign exchange. The domestic production of nitrogenous fertilizers was to increase during the Second Plan to 2,90,000 tons of nitrogen by 1960-61, while the actual production in that year amounted to 97.2 thousand tons of nitrogen.[27]

It is evident from the Third Plan Mid-term Appraisal that the gap between target and actual production of nitrogenous fertilizers will not be closed by 1965-66. It is reckoned that domestic production per annum will increase to 5 lakh tons of nitrogen by that year as compared to the target of 8 lakh tons of nitrogen. As a result, supplies have lagged behind requirements during the first two years of the Third Plan. Supplies were 2.8 lakh tons of nitrogen in 1961-62 as compared to 4 lakh tons of requirements and 3.5 lakh tons in 1962-63 as compared to the requirements of 5.3 lakh tons. In 1963-64, supplies have been estimated at about 4.5 lakh tons of nitrogen.

A similar situation obtains with respect to supplies of phosphatic and potassic fertilizers. The Third Plan target is to increase

---

[26] Economic Survey of Indian Agriculture 1960-61, Ministry of Food and Agriculture, Government of India (1962), p. 27.

[27] Programmes of Industrial Development 1961-66, Planning Commission, Government of India (1962), p. 340.

TABLE III

PRODUCTION, IMPORTS AND DISTRIBUTION OF CHEMICAL FERTILIZERS 1952-62

(in thousand metric tons)

Year	Nitrogen			Phosphoric Acid			Potash		
	Produced	Imported	Distributed	Produced	Imported	Distributed	Produced	Imported	Distributed
1952-53	52 8	44 3	57 8	7 4	—	4 5	—	3 3	—
1953-54	52 6	19 3	89 3	13 8	—	8 3	—	7.5	—
1954-55	68 1	20 0	94 8	14 3	—	15 0	—	11 1	—
1955-56	76 5	53 4	107 5	12 4	—	13 0	—	10 3	—
1956-57	78 4	56 8	107 8	17 6	—	15 9	—	14 8	—
1957-58	80 8	110 1	149 0	25 8	—	21 9	—	12 8	—
1958-59	80 4	97 5	172 0	31 0	—	29.5	—	22 4	—
1959-60	82 5	142 3	235 4	51 4	—	50 1	—	33 1	21 3
1960-61	109 0	172 0	219 3	53 7	—	53 7	—	24 8	35 0
1961-62	151 1	142 6	313.6	65 4	—	62 9	—	30 4	30 8

Source · Fertiliser Statistics, 1961-62, Fertiliser Association of India (1963), p 64 their supplies from 70,000 tons of phosphoric acid per year to 4 lakh tons per year and from 25,000 tons of potash per year to 2 lakh tons per year As against these targets, the increase in the supplies of phosphoric acid during the first two years was small, being only 10,000 tons. Supplies of potassic fertilizers depended wholly on imports arranged for by the trade out of commercial allotments of foreign exchange.

Chemical fertilizers yield optimum results when applied along with irrigation. It is also found that best results are secured when both organic and inorganic manures are used in combination. The line of advance therefore lies in fully conserving and utilising farmyard manure, on the one hand, and supplementing it by fertilizers in areas which are being brought under irrigation.

Both in the case of irrigation and of fertilizers, promotional pricing, involving subsidisation in the initial stages, is justifiable and necessary. Over a period, of course, these servces have to pay their way In view of the planned increase in the supply of chemical fertilizers, it will be a considerable administrative task to ensure efficient distribution of the available supplies. The Fertiliser Distribution Enquiry Committee has particularly emphasised the need for promoting the use of fertilizers in the form of mixtures for balanced fertilization and reduction in costs of distribution through improved arrangements in this respect Particularly, the promotion of balanced fertilization requires extensive soil tests to determine the kinds and quantities of fertilizers needed for different crops under different conditions This aspect of the problem is being studied by the Indian Council of Agricultural Research through model agronomic experiments in the various agro-climatic regions of the country

AGRICULTURAL IMPLEMENTS

Most of Indian agriculture is non-mechanised and only the traditional implements are in general use. This is only another way of saying that enough capital is not invested in agriculture. More than 90 per cent of the ploughs in India are of the indigenous or country type and are not essentially different in shape and work capacity from what they were perhaps a thousand years ago There is need for improved agricultural machinery suitable for

Several State Governments have attempted to introduce improved ploughs These efforts have met with very limited success. There is no one type of plough that will be suitable all over the country, nor is it easy to standardise a few types as the plough is locally made by the village artisan. It is difficult to introduce improved implements unless the size of the farm is large enough The facilities at present available for the servicing and repairing of modern implements and tools are not satisfactory The skill and techniques of the local blacksmiths and carpenters need to be improved by organising training courses and demonstrations

Less than one per cent of the cultivated land in India uses any power-driven machinery Increased financial assistance under the Grow More Food Campaign has accelerated the process of using improved implements, diesel engines, electrical motors, etc, for agricultural purposes Mechanisation is often taken as meaning tractor cultivation, but if it is conceived as utilisation of power-driven machinery for various agricultural operations, there is a wide scope for it Tractors have been useful in India only for reclamation work, eradication of deep-rooted weeds, in making roads, bunds and channels, in anti-erosion work and on large estates where big areas have to be dealt with quickly and efficiently The scope for tractor cultivation will remain limited unless some system of co-operative or joint cultivation is accepted.

Agricultural implements are classified according to the categories of work (1) for preparing seed beds, (2) for cultivation operations, (3) for harvesting and threshing, (4) for processing and utilisation of agricultural produce and (5) for lifting water Attention has been mostly devoted to improvement of the implements used for cultivation and for lifting water There exists considerable scope for improving the efficiency of implements used for seed bed preparation and for harvesting operations The indigenous blade harrow has been improved scientifically so that the depth of operations can be controlled A mechanical seed drill has been designed and used in a limited way in Peninsular India. Single row seed drills for jute and groundnuts have also been developed The indigenous water-lift of the North has been completely replaced by a lift with links and buckets Persian wheels have been used in the eastern and southern States The indigenous *Mhote* or the single bullock water-lift of South India has been improved by using chains and buckets Centrifugal pumps driven by engine or electrical power have become increasingly popular in Bombay, Uttar Pradesh, Madras and Mysore In regard to improved machinery required for subsidiary occupations, extensive experiments have been conducted on improving the performance of rice mills With a view to securing a higher turnover of unbroken and unpolished rice kernels, the Japanese type of rice hullers, both hand-operated and power-driven have been found to be efficient The wooden roller sugarcane crushers have been replaced by crushers with iron rollers Barns for curing tobacco and cold storage arrangements for potatoes and oranges have been designed and built The technological laboratory of the Indian Central Cotton Committee at Bombay has designed a hand-cum-power-driven table type cotton gin. For transport of agricultural produce, the bullock cart, however, remains as primitive as ever In some parts of Uttar Pradesh, complete cart wheels made of steel have become popular In a few organised farms, carts with rubber tyre wheels made of steel have become popular In a few organised farms, carts with rubber tyre wheels are in use.

The data contained in Table IV indicate that the use of improved implements and agricultural machinery has been growing in recent years

Supply of Agricultural Machinery and Improved Implements[28]

The position in regard to supply of improved implements and agricultural machinery as at the end of the Second Plan (1960-61) and the provisions in this respect in the Third Plan are indicated below

Improved Implements The improved implements produced consist of field implements such as ploughs, seeding and planting equipment, hand tools such as spades, shovels and hoes, irrigation equipment such as Persian wheels and hand pumps, plant protection equipment such as sprayers and dusters and transport equipment such as wheel barrows and carts At the end of the Second Plan, there were 60 factories engaged in the manufacture of improved implements with a capacity of 30,900 tons in terms of steel The actual production of improved implements increased from

---

[28] Based on the material contained in Programmes of Industrial Development 1961-66. *Op cit*, pp 207-227

TABLE IV

USE OF IMPROVED IMPLEMENTS AND AGRICULTURAL MACHINERY IN INDIA 1961

('000 Nos)

Item	1951	1956	1961
Ploughs			
(a) Wooden	31,796	36,142	38,324
(b) Iron	931	1,376	2,299
Carts	9,862	10,091	12,071
Sugarcane Crushers			
(a) Power-driven	21	23	33
(b) Bullock-driven	505	545	589
Oil Engines	82	122	230
Electric Pumps	26	47	160
Tractors (used for agricultural purposes only)	9	21	34
Persian Wheels	N A	N A	600

Source India — A Reference Annual, 1962 and 1963, Government of India, and *Agricultural Situation in India*, Vol XVII, No 1, April 1962

13,875 tons of steel in 1955-56 to 17,400 tons in 1960-61 The value of imported implements for the corresponding period was Rs. 92 2 lakhs and Rs. 39 lakhs. Thus, there is some indication that imports are declining with growing domestic production of improved implements According to a survey conducted by the Central Small Industries Organisation of the Ministry of Commerce, there were approximately 800 small-scale units in 1955 in the country which manufactured agricultural implements The value of output of these units was estimated at Rs 3 86 crores and it was further expected to increase to Rs. 7 71 crores by the end of the Second Plan While the demand for improved implements is likely to rise in future, no estimates are available of the total requirements in this respect

Power-Driven Pumps (Centrifugal)· The domestic production of these pumps increased from 37,000 in 1955-56 to 1,05,000 in

1960-61. The domestic availability (domestic production + net imports) during the same period increased from 41,234 to 1,06,696 and was adequate to meet the estimated domestic demand for 86,000 pumps in 1960-61

Diesel Engines As against an annual production target of 21,000 diesel engines for the Second Plan, the annual production of these engines increased from 10,371 in 1955-56 to 43,215 in 1960-61

Agricultural Tractors Owing to the restrictive import policy followed during the Second Plan due to foreign exchange difficulties, the domestic demand for tractors could not be fully met during this period For example, only 3,843 tractors could be imported during the year 1960-61 as against the estimated demand of 5,000 tractors for that year. The annual demand is expected to increase to 10,000 tractors by the end of the Third Plan Licences have been granted to five units for domestic production of tractors These will have a capacity of 12,000 tractors and their production will be adequate to meet the domestic requirement.

The expansion in the production of agricultural machinery planned for the Third Plan is indicated in Table V

TABLE V

PRODUCTION OF AGRICULTURAL MACHINERY

('000 Nos)

	1960-61 (Actual)	1965-66 (Planned)
Power-driven Pumps		
Capacity	128	184
Production	105	150
Diesel Engines		
Capacity	47 68	72
Production	43 21	66
Agricultural Tractors		
Capacity	—	12
Production	—	10

In several parts of the country, progressive farmers are adopting improved implements on an increasing scale Their experience and example could assist in popularising the use of improved implements To facilitate this, Agriculture and Co-operative Departments should provide effective extension arrangements, training, credit and repair services.

CULTURAL PRACTICES

India has a long tradition of sound cultural practices, but there has been a gradual deterioration from the former standards of rotation of crops This is because of lack of proper technical advice The prospect of immediate gains from commercial crops has often led to indiscriminate departures from the most suitable rotation of crops The existing practices require improvement in several directions Introduction and popularisation of scientific practices in land utilisation and cropping should be an important function of the National Extension Service. There is, for example, the Japanese method of rice cultivation. The method, it has been demonstrated, improves the yield of rice substantially In 1953, about 2,80,000 acres were covered under the Japanese method, while a partial use of the method was tried on another 3 million acres In 1959-60, the area under this improved practice increased to 7 2 million acres[29] The additional yield per acre reported was 38 maunds in Madhya Pradesh, 21 6 maunds in Kerala and 19 maunds in West Bengal There was a record produce of 63 maunds and 30 seers of paddy at Sultanpur village about 50 miles from Bhopal The average yield of paddy per acre in this region under the indigenous method of cultivation is between 8 to 10 maunds. In Maharashtra, considerable progress has been made with 2 5 lakh acres under the new method with a record output of 1,500 lbs. per acre In addition, in 1960-61 an area of over 1 1 lakh acres has been covered under partial Japanese method in this State.[30] The propagation of the new method has been encouraged by starting centres for training farmers and setting up demonstration plots on cultivators' fields and Government farms, by a reduction in the price of fertilizers, distribution of improved seeds and provision of increased credit facilities, etc In this, as in other fields of crop improvement, research, demonstration and work on the field have to move together

---

[29] *Agricultural Situation in India,* Vol XVI, No 5, August (Annual Number), 1961, p 497

[30] Annual Administration Report 1960-61, Department of Agriculture, Maharashtra State (1962), p 78

Intensive Agricultural District Programme

An intensive agricultural development project known as Intensive Agricultural District Programme ("Package Programme") has been formulated on the lines of the recommendations of the Ford Foundation Team.[31] The programme envisages the selection of favourable districts with maximum irrigation facilities and minimum natural hazards for intensive development In these districts, all the elements required for increasing food production are simultaneously provided The main emphasis in these districts has been on the introduction of a "package" of improved agricultural practices, specially application of fertilizers, introduction of improved seeds, plant protection measures, provision of credit, and preparation of farm production plans for individual cultivators Under the programme, seven districts in Andhra Pradesh, Bihar, Madras, Madhya Pradesh, Punjab, Rajasthan and Uttar Pradesh were taken up in 1960-61 with the financial and technical assistance from the Ford Foundation Subsequently, intensive districts have been taken up in all other States, six since 1962-63 and three during 1963-64 An intensive agricultural district programme, also called the Indo-German Agricultural Project, is being implemented in the Mandi district of Himachal Pradesh with collaboration from West Germany from November 1962 In view of the short period which has elapsed, data presently available relate to the first seven districts. Out of a total of 140 development blocks in the first seven districts, work has been taken up in 123 during the *kharif* season 1962-63 In terms of cultivated area, about 27 50 lakh acres, representing 35 per cent of the total cultivated area in the I A D P. blocks of these districts, had been covered during 1962-63

Farm planning for individual farmers under the programme has proved useful both as an educative process and a practical expedient for stimulating the use of improved methods of cultivation A substantial number of cultivators in the package districts are now aware of the potentialities of improved practices The number of farm plans actually prepared has increased from 55,000 in 1960-61 to 3 8 lakhs in 1962-63 and is expected to increase to 10 26 lakhs in 1963-64 in the first seven districts alone The most encouraging development has been the increased use of fertilizers by cultivators in all the districts Nitrogenous fertilizers distributed in the seven districts increased from 90,400 tons in 1961-62 to 1,19,900 tons in 1962-63 Similarly, the consumption of phosphatic fertilizers increased from 20,000 tons in 1960-61 to 61,000 tons in 1962-63 In addition to the use of inorganic manures, emphasis has also been laid on the development of local manurial resources, such as green manuring and rural compost. A total area of 1 65 lakh acres was brought under green manuring in the districts of Ludhiana, Raipur and West Godavari in 1962-63. There was also a steady increase in the quantum of improved seeds distributed to cultivators In the field of plant protection, an area of 8 15 lakh acres was treated against pests and diseases during 1962-63 as compared to 5 49 lakh acres in 1961-62 Efforts are also being made in prophylactic treatment of seeds and crops to ward off attack of insects and diseases The districts are implementing a comprehensive programme of scientific demonstrations on cultivators' fields for propagating the "package of practices." During 1962-63, about 17,400 demonstrations were laid out on various crops as against 12,600 during 1961-62 [32] An implements workshop is being established in each package district in order to give fillip to the production, popularisation and demonstration of improved implements suited to the region Steps are being taken to rationalise and render more effective the working of co-operative institutions at all levels The volume of short-term loans advanced by primary co-operative societies in the first seven districts increased from Rs 860 lakhs in 1959-60 to Rs 1158 lakhs in 1961-62. The amount of medium term loans advanced increased from Rs 42 lakhs to Rs 177 lakhs during the same period To ensure that credit facilities are used for productive purposes, short-term loans are being advanced, as far as possible, in kind rather than in cash and efforts are being made to observe more strictly seasonability in credit operations corresponding to the cropping pattern of the region.

---

[31] Report of India's Food Crisis and Steps to Meet It, the Agricultural Production Team sponsored by the Ford Foundation, Government of India (1959) p 5

---

[32] Report on the Activities of the Department of Agriculture 1963-64, Ministry of Food and Agriculture, Government of India (1964), pp 16-17.

In all the I A D P districts appreciable increases were achieved in the yields of crops included under the programme during 1961-62 as compared to 1960-61 The average yield rates of rice recorded an increase of 21 3 per cent in Shahabad, 20 4 per cent in West Godavari and 12 6 per cent in Tanjore Similarly, the yield rates of wheat went up by 6 8 per cent in Aligarh and 12 8 per cent in Ludhiana during 1961-62 as compared to 1960-61 During the *kharif* season of 1962-63, however, as a result of the widespread natural calamities, there was a general decline in the level of crop yields in almost all the districts as compared to the previous year The corresponding decline registered in the 'control' areas was larger than that in the I A D P areas in most cases. In Aligarh, however, there was a phenomenal increase in the yields of maize and bajra during 1962-63 over 1961-62, being 168 per cent in the case of maize and 57 per cent in the case of bajra It may be mentioned that the *rabi* season of 1962-63 has been generally favourable to the growth of crops In Aligarh, the yields of wheat and barley registered a slight increase during 1962-63 as compared to 1961-62 Similarly, in Shahabad, there was some increase in the yields of wheat and gram.[33]

The first seven districts have drawn up plans for expanding the coverage to 50 lakh acres in 125 blocks during 1963-64 In the case of the remaining districts to which the programme was extended subsequently, work has been taken up in 77 out of 169 blocks in 1962-63 and in 56 during 1963-64 The Indo-German Agricultural Project in Madhya Pradesh has already made a good impact in the Mandi district Upto November 1963, 28,643 farm plans were prepared, 2,495 composite demonstrations were laid out and over 1,700 tons of chemical fertilizers were distributed in the district[34] With the object of accelerating efforts for agricultural production, during 1962-63 40 districts were marked for intensive development of rice and 76 districts for intensive development of millets.[35] During *kharif* season of 1964-65, 73 districts have been selected for intensive cultivation of paddy and 53 districts for the millets and pulses programme Similarly, 20 districts have been selected for intensive cultivation of wheat during *rabi* 1964-65 To a greater extent than other areas, intensive agricultural districts provide the necessary facilities for raising the technical level of agriculture, and experience gained in work in these districts should stimulate development elsewhere

---

[33] *Agricultural Situation in India*, Vol XVIII, No 5, August (Annual Number), 1963, pp 295-298

[34] Report on the Activities of the Department of Agriculture, 1963-64, *Op cit*, p 17

PROGRESS OF TECHNICAL RESEARCH

The formulation of a comprehensive and phased programme of crop improvement on the lines indicated will have to be based on the progress that has been so far made in technical research in agriculture in this country There are three distinct stages in such progress (a) acquisition of scientific knowledge by specialised research and study; (b) application of the knowledge on experimental farms and stations under conditions approximating to those found in rural life, and (c) extension of the results thus obtained to the agriculturists who are the real beneficiaries concerned and who must therefore be convinced as to the desirability as well as the practicability of the improvements suggested

For the acquisition and development of scientific knowledge, the best media are the Universities and the Technical Institutes The number of agricultural colleges and institutions in India has been small, and very little of agriculture or agricultural economics is covered in the Arts courses or the Science courses in the Universities It is only in the course of the last few years that the Agricultural Colleges and the post-graduate institutes for economic research have directed their efforts towards an intensification of their courses and an improvement of their facilities for research[36] In recent years, under the Technical Assistance and other programmes of the international

---

[35] The Third Plan Mid-term Appraisal, *Op cit*, p 80

[36] See in this context J D Black and H L Stewart· Report on the Research Teaching and Public Administration of the Economics of Agriculture for India (1954)

The Joint Indo-American Team on Agricultural Research and Education (1955) has investigated the position and recommended, in their report, the sponsoring of Rural Institutes organisations, Indian scholars and administrators have been sent abroad to study conditions in other countries Our own scholars have transcended the limitations of the educational system under which they grew up and have ventured into higher technical and scientific research, often with remarkable success

Some of the agricultural institutes in the country have been carrying on research work in the applied branches of modern science bearing on different aspects of agriculture. Recently, the scope of activities of these institutes has been extended and new institutes have also been established for the purpose of developing the technical side of research Professors Black and Stewart, after a review of the position of agricultural education in India, observe that an emphasis on 'practical work' in the Indian agricultural colleges is highly desirable under Indian conditions. They also lay great stress on post-graduate education and research, including agricultural economics, as in the carrying forward of the Five-Year Plans, there will be need for a rapidly growing number of men who are specialised in a very practical down-to-earth research to carry out programmes in particular areas and situations[37] India has to catch up with the progress in other countries and to make up a great deal in the application of scientific results to the field.

Organisation of Research

The Indian Agricultural Research Institute, now located at New Delhi, was originally established by the Government of India in 1905 at Pusa in Bihar The Institute occupies a position of all-India importance, its function is to provide a scientific basis for the activities of the various Departments of Agriculture in the States and to undertake work of such wide application as must be done at one centre so as to serve the entire country The work of the Institute falls into three divisions: (1) standardisation of methods for the use of other stations, (2) making collections of insects, fungi, soils, etc, and also a register of varieties of crops, all these to be made available to the staff of State Departments, and (3) investigation of agricultural scientific problems which seem to be near to practical application. The Institute has the following divisions under it: agronomy, botany, entomology, mycology and plant pathology, soil science and agricultural chemistry, agricultural engineering, horticulture, agricultural extension, agricultural economics, plant introduction and microbiology. In 1958, the All-India Soil and Land Use Survey started functioning as a separate unit of the Institute. The Institute has under its control a total of 11 sub-stations located all over the country, in addition to the 24 regional soil testing laboratories and the centres and sub-centres set up in the country under the Co-ordinated Maize Breeding Scheme.[38] Besides its regular programme of research, the various Divisions of the Institute have undertaken a number of research projects financed either by the Ministry of Food and Agriculture or by the Indian Council of Agricultural Research. In recent years, the Institute has been entrusted with the co-ordination of research projects on regional basis. Post-graduate training constitutes an important part of its activities. Besides short-term and refresher courses, it provides regular 2-year courses in major disciplines of agricultural science.

The Institute works in close co-operation with the Indian Council of Agricultural Research. The problems that should be of major concern are the impediments encountered by the cultivator in obtaining maximum agricultural production, and in increasing efficiency of production. Some of the restrictions in production are of immediate concern, such as losses incurred through pests, diseases, or inadequate fertilizers, whereas others are of long range consequence, such as gradual deterioration of soils and land through erosion or water-logging. The problem has to be identified and properly diagnosed at the level at which it occurs. In the course of the development of this Institute, the expansion of research in some crops has resulted in the establishment of new institutes. The foundations of research in cotton, silk, lac, tobacco, potato and sugarcane in India were first laid by this Institute which nursed the research activities in these subjects till they were later taken over, each by a separate research organisation.

The Indian Council of Agricultural Research (ICAR) is a central body, whose primary objective is the promotion, guidance and co-ordination of agricultural and animal husbandry education and research throughout India It finances approved research work carried out in Government Institutes belonging to the Centre and the States, in Universities and also in recognised private institutions. As a general rule, the Council does not itself undertake investigation There are, however, two directions in which it has done so: (i) costs of production of crops, especially of cotton and sugarcane, and (ii) the statistical control of agricultural experiments Several schemes of the Council's work are carried on through the various special institutes established for the purpose Pioneering work extending over a wide range has been accomplished and a stage is now reached when a reorientation of the Council's activities is needed to promote fuller use of existing knowledge through work on the cultivator's field rather than in the laboratory.

---

[38] Scientific Reports of the Indian Agricultural Research Institute for the year 1961, Government of India (1963) pp. i-ii

The Joint Indo-American Team on Agricultural Research and Education, which was appointed by the Government of India in 1954, made a number of valuable recommendations for improvement of agricultural research and education in the country[39] The Team recognised the need for expansion of research not only for strengthening the research schemes in operation but also for initiating research in neglected fields It stressed the need for continued support of agricultural research by the States and for expansion of State facilities to be used by the personnel both in the Centre and the States It recommended the establishment of ICAR as the technical arm of the Ministry of Food and Agriculture for the co-ordination of all research and related activities supported by Central funds It was recommended that the Central research institutes and Commodity Committees should be under the control and administration of the ICAR

The recommendations of the first Joint Indo-American Team were accepted in principle by the Government of India, but only a few of them have been implemented by the Central and State Governments. The Second Joint Indo-American Team (1959)[40] which reviewed the progress of work done in this sphere reported that little progress could be documented on most of the recommendations made by the First Team There was, however, an increasing awareness for the need to gear the agricultural research programme to the major problem of larger agricultural production The Second Team emphasised the need to implement fully the recommendations made by the First Team In addition, the Second Team recommended the formation of an Agricultural Research Policy Council to identify major problems in agricultural research policy, to establish priorities, and to determine means of implementing a research programme geared to solve these problems With the establishment of this high level body, it recommended the abolition of the Board of Research. At the State level, all of the agricultural research programmes should be co-ordinated by setting up strong State Research Boards It recommended that gaps in coverage of agricultural research by current programmes should be given particular scrutiny with a view to bridging them.

---

[39] Report of the Joint Indo-American Team on Agricultural Research and Education, Ministry of Food and Agriculture, Government of India, Indian Council of Agricultural Research (1955), pp 27-28

[40] Report of the Second Joint Indo-American Team on Agricultural Education, Research and Extension, Ministry of Food and Agriculture, Government of India, Indian Council of Agricultural Research (1960), pp. 26-40.

The Council is reorienting its activities on these lines Its activities are not limited only to research projects, but include extension and development It also undertakes training of students in agriculture and animal husbandry statistics In order to disseminate the results of research, the Council publishes a number of journals, monographs, bulletins, pamphlets, etc, which range from purely technical communications useful only to trained research workers to non-technical ones written in popular language for the benefit of the layman The Royal Commission on Agriculture (1928) had hoped that "through the proposed Council of Agricultural Research it would be possible to develop satisfactorily agricultural research in India, to secure a continuity of policy and to ensure a programme of ordered advance in the domain of agricultural research" The Council has now an impressive record of progress to its credit, it has established itself as the Central agricultural organisation which guides, finances and co-ordinates research problems connected with agriculture and animal husbandry in the widest sense of the term.

Agricultural Extension

The final stage in crop improvement is the extension of the results of research to the cultivator This is the greatest need of the moment, for agricultural techniques and methods in this country have remained stationary for generations past Some excellent results by way of better yields have been obtained at the various laboratories and research stations but all these are of little avail unless this knowledge is applied to the actual fields and farms where the cultivator works

The ICAR, on the recommendation of the Russell report undertook an examination of the methods of demonstration and propaganda in use and put forward the project method, the main idea of which is to put across a whole group of tested improvements simultaneously and to observe the combined effect of all these on the cultivator's income and on the land[41] This method implies the use of improved seeds, scientific methods of cultivation, manuring, irrigation, drainage, preventive and curative measures against pest and diseases, improvement of livestock, methods of marketing, etc The demonstration method previously adopted was usually confined to one particular item of development and was carried out by the Government departmental staff, whereas the project method incorporates all the items of development into a single scheme and has to be worked out by the cultivator himself under official guidance and supervision This is the basic idea underlying the programme for Community Development and National Extension Service, an account of which is given in a later chapter

Organisation for Extension

The success of programmes for agricultural extension depends on the adequacy and efficiency of the organisation entrusted with these programmes This implies effective contact between the agriculturist and the extension worker and active and viable group organisations of agriculturists such as co-operative societies to bring about steady improvement in techniques and practices From both these points of view, the extension organisation in India shows certain deficiencies which need to be noted

Regarding extension workers, the actual number of workers continues to be smaller than the required number in relation to many categories of workers According to the Mid-term Appraisal of the Third Plan, in March 1963, there were shortages ranging from 26 per cent to 30 per cent of the requirements among women village level workers, social education organisers and progress assistants and from 5 per cent to 6 per cent among agricultural and co-operation officers and village level workers The effects of such shortages are sometimes further accentuated by transfers of personnel at short intervals The aptitude of the personnel for extension work also needs to be improved through adequate initial and in-service training

---

[41] *Indian Farming*, March 1941

The First and the Second Joint Indo-American Team[42] recommended that the organisation of agriculture and community development should be streamlined from the Central Government down to the village levels It was recommended that research, education and extension agencies should not be involved in rendering of agricultural services such as the distribution of improved seed, fertilizers, or similar activities of a service nature. The extension programme should be built around stated objectives and goals within the national policy and based upon the needs of rural people It should originate at the farm home, utilizing research and scientific information to attain desired results Agricultural extension work can be effective only when it is linked to research and education Teaching institutions in agriculture are now endeavouring to integrate their activities in accordance with this principle The ultimate objective should be to unify research, education and extension activities of agricultural and veterinary colleges and rural universities in association with the State Departments, with a view to promoting free flow of technical advice and guidance

---

[42] *Vide* Report of the Second Joint Indo-American Team on Agricultural Education, Research and Extension, *Op cit*, pp 41-50

CHAPTER VI

ANIMAL HUSBANDRY

The basic facts on animal husbandry including dairying are presented in Chapter I In this chapter only the salient features about animal husbandry are described to provide the background for discussion The role of animal husbandry in an economy may be assessed in terms of its contribution to production of goods and services The total value of livestock products and services in India was estimated by Dr Wright in 1937 at roughly Rs 1,010 crores[1] It included, among others, the value of dairy products and labour of bullocks in agriculture but excluded the potential value of cattle as a means of increasing the fertility of the soil The National Income Committee estimated the contribution of livestock exclusive of labour value of bullocks for 1950-51 at Rs 664 crores which represents about 16 per cent of the total income from agriculture According to the revised estimates of the National Income Unit of the Central Statistical Organisation, the income from animal husbandry at 1958-59 prices, amounted to Rs 850 crores for the year 1959-60, forming about 14 per cent of the total agricultural income In some advanced countries like the U S A , for instance, the livestock products account for over 50 per cent of the total farm products, while in the U K , its contribution is as high as 70 per cent of the total agricultural income Australia depends for about one-half of the income on wool, and for about one-third on meat and dairy products

A relatively low contribution of animal husbandry in India is due to the poor quality of animals For example, an average milk yield of a cow in India comes to only 413 lbs. (187 kilograms) per lactation (the lowest in any country in the world) as against 3,000 to 5,000 lbs in the U S A and the U K , 6,000 lbs in Sweden and about 7,000 lbs in Australia The baffalo yields on an average 1,101 lbs (500 kilograms)[2] The average yield of wool per sheep in India comes to 2 4 lbs, as compared to 9 lbs in Australia, 8 4 lbs in the U S A and 4 1 lbs in the U K The poor performance of the animals in India may be attributed, among others, to inadequate feeding, defective breeding and irrational management of other animal husbandry practices Apart from the fact that the livestock population is larger than what could be supported with available fodder resources, about 10 per cent of this population is considered to be unserviceable or unproductive The development plans of India, have emphasised the necessity of livestock improvement and Rs 16 crores and Rs 33 crores were allotted during the First and Second Plan periods respectively, to the advancement of animal husbandry (including dairying) In the Third Plan also a provision of Rs 90 crores is made for the purpose

---

[1] N C Wright Report on the Development of the Cattle and Dairy Industries of India (1937), pp 58-59

The animal husbandry programmes, however, continue to encounter serious practical difficulties. Before solutions for them can be found, it is necessary that the size and the nature of the problem and its essential features should be widely understood

Livestock economy, livestock production and animal husbandry are generally used as synonyms Animal husbandry in its wider connotation includes what man does for the animals and what the animals do in turn for man In its general use, animal husbandry may connote the art and science of breeding, feeding and caring for farm animals so that they may be healthy, productive, reproductive and useful to man This definition covers numerous species like cattle, buffaloes and other livestock and poultry However, animal husbandry for all practical purposes relates to livestock, chiefly bovine population Poultry farming and fisheries may be treated to a certain extent differently as they cover only the small animals

India has about 25 breeds of cattle and 7 breeds of buffaloes. As early as 1938, Col A Olver classified the cattle breeds into six groups mainly on the basis of the shape of horns and the location of breeds Again in 1953, another classification[3] was done more or less on the same lines The Livestock Census of India, 1951 also enumerated these and other breeds of livestock Cattle breeds have been recently classified in accordance with their utility[4] These breeds are divided into two groups, *viz*, milch breeds and general utility breeds The milch breeds are Sahiwal, Sindhi, Gir and Deoni, while the general utility breeds are Nimari, Dangi, Hariana, Mewati, Rath, Ongole, Gaolao, Krishna Valley, Tharparkar and Kankrej It may be noted that this list is not exhaustive The buffalo breeds are Murrah, Bhadawari, Jaffarabadi, Surti, Mehsana, Nagpuri and Nili

---

[2] In the Military Dairy Farms in India striking results have been achieved in increasing the milk yield of cows by cross-breeding of Indian animals with imported European bulls From the mean average yield of 3,247 pounds in pure Indian the yield rose to 6,859 pounds in the half-bred The average number of days in milk also increased from 273 days to 324 days as a result of this cross-breeding Continuous introduction of foreign blood, however, eventually affected the constitution

According to the Livestock Census of India, 1961, there were 336 million farm animals Of these, cattle numbered about 176 million and buffaloes about 51 million, constituting together a fourth of the world's bovine population There were, in addition, 40 million sheep, 60 million goats, 8 6 million other livestock and 116 million poultry.

The rate of increase of livestock population over the last decade (1951-61) works out at 1 5 per cent per annum This rate was higher during the quinquennium 1956-61, being about 2 per cent per annum The quinquennial rate of increase of sheep and goats is 2 6 per cent and 9 8 per cent respectively The number of horses and ponies has decreased by about 9 per cent, while the other animals have increased by about 7 per cent during the same quinquennium There is as much as 23 5 per cent increase in the number of poultry

The rate of increase in the bovine population during the last decade is given in Table I

Bovine population constitutes more than 67 per cent of the total livestock The livestock economy of India is therefore characterised largely by the functions of bovine animals Cattle form 77 per cent of the total bovine animals and the rest is represented by buffaloes It is, however, observed that the rate of increase of buffaloes over the decade (1951-61) is higher (17 8 per cent) than that of cattle (13 per cent) Breeding of buffaloes for

---

[3] F A O Zebu Cattle of India and Pakistan (1953)

[4] First Indian Dairy Year Book 1961, pp 3-11

TABLE I

VARIATION IN THE NUMBER OF BOVINE ANIMALS DURING THE DECADE 1951-61

Kind	1951	1956	1961	Percentage variation (or—) in 1961 over 1951	Percentage variation (or—) in 1961 over 1956
	(In millions)				
Cattle					
Males over 3 years	61 80	64 86	72 47	18 3	11 7
Females over 3 years	49 87	49 89	54 32	8 9	8 8
Young stock	43 56	43 80	48 87	12 2	11 6
Total	155 23	158 55	175 66	13 1	10 7
Buffaloes					
Males over 3 years	6 79	6 50	7 66	12 6	17 7
Females over 3 years	21 85	22 33	25 02	14 6	12 1
Young stock	14 75	16 07	18 45	25 1	14 8
Total	43 39	44 90	51 13	17 8	13 9
Total Bovine	198 62	203 45	226 79	14 2	11 9
Percentage of Bovine population to total livestock	67 8	67 0	67 4	—	—

Source *Agricultural Situation in India*, Vol XVII, No 1, April, 1962, pp 121-122 (See All-India Ninth Census of Livestock, Poultry and Tractors)

dairying is becoming more popular than that of cattle There was an increase of 14 6 per cent in respect of buffaloes in milk as against 8 9 per cent increase in the number of milch cows in 1961 as compared to 1951. Of the cattle over 3 years, the percentage of males was 57 and that of females 43 The reverse is the position in the case of buffaloes over 3 years For example, the female buffaloes account for as high as 80 per cent of the total, while the remaining 20 per cent are male buffaloes Over the last decade 1951-61, the cows in milk have increased by 7 per cent while the buffaloes in milk rose by 23 per cent In respect of draft animals, there has been an increase of 16 4 per cent in the case of working bullocks in 1961 as compared to 1951, whereas the corresponding figure is 8 per cent for working buffaloes Of the total working animals (draft), about 91 per cent are cattle and the rest (9 per cent) are buffaloes It is therefore obvious that the draught power in India consists mainly of bullocks The use of cows and buffaloes for draft purposes is very insignificant

LIVESTOCK IN FARM ECONOMY

The role of animal husbandry may be better appreciated from the point of view of its economic contribution to the national economy and farm economy in particular Farm animals enhance the productivity of land and people by providing nutritive food, draught power, farmyard manure and some leather and glandular products Balanced diet raises efficiency of manpower and prolongs productive life. This diet includes, among others, milk and milk products, meat and eggs which are of higher nutritive value. Since productivity of manpower and average expectancy of life are very low in India, animal husbandry makes good the shortage of nutritive articles to a large extent The availability of the nutritive articles for consumption in different countries is given in Table II

TABLE II

PER CAPITA CONSUMPTION OF NUTRITIVE ARTICLES IN DIFFERENT COUNTRIES

(Kilograms per year)

Countries	Meat	Eggs	Fish	Milk	Fats
Denmark	65	10	16	18	28
United Kingdom	73	15	10	14	22
United States	95	19	5	17	21
Ceylon	3	1	7	2	4
India	2	—	1	5	4
Japan	6	5	23	2	4
Australia	114	10	5	14	16
New Zealand	110	17	7	22	20
Brazil	29	3	3	4	8
United Arab Republic	13	1	5	4	5
South Africa	43	3	11	6	5

Source The State of Food and Agriculture 1962, F A O (1962), pp 187-89

Consumption of most of the nutritive articles such as meat, eggs, fish and fats is lowest in India Though the consumption of dairy products is slightly higher in India than in Ceylon, Japan, Brazil and United Arab Republic. it is very low as compared to other Western countries Available supplies of milk and milk products in India are not sufficient to meet the requirements of minimum nutritional standard Dr Sukhatme in his study of "Food and Nutrition Situation in India,"[5] has estimated that the available supplies of milk and milk products fall short of minimum nutritional standard by about 30 per cent The deficit is particularly large in meat, fish and egg which provide only about 55 per cent, 42 per cent and 66 6 per cent respectively of what is nutritionally considered as the minimum

The gross animal milk production in 1960-61 was estimated at about 22 million metric tons of which 70 per cent is marketed, the balance being either fed to calves or retained for home consumption Of this, about 39 per cent is used for consumption as fluid milk, about 46 per cent as ghee and butter and the rest as *khoa*, curd and other products As pointed out earlier, milk yield per cow and buffalo is very low in India as compared to the Western countries The average milk yield per she-buffalo is however found to be 3 to 4 times the average milk yield of the cow As a result, though the proportion of cows in the total of dairy animals is high, their percentage contribution to the total milk production is low "Though buffaloes form only 30 per cent of the milch animals, they account for 54 per cent of the milk compared with 42 per cent yielded by the cows "[6]

Draught Power

India is mainly an agricultural country where cultivation of land is largely done with the help of bullocks Though other animals are sometimes used for draught purposes, they are comparatively few in number For example, of the total draft animals used on the farms, 70 per cent are bullocks, 20 8 per cent cows, 8 5 per cent male buffaloes and only 0 6 per cent are female buffaloes The use of horses and ponies as draught power on farms is very rare in India The fact that bullocks constitute the bulk of livestock population indicates that the farm animals are mainly maintained for draught purposes The insignificant extent of mechanisation of Indian agriculture also justifies the indispensability of bullocks for agricultural operations

---

[5] *Indian Journal of Agricultural Economics*, Vol XVII, No 3, July-September, 1962, p 11

[6] Report on the First Five-Year Plan, Planning Commission, Government of India (1952), p 280

TABLE III

NUMBER OF CULTIVABLE LAND PER DRAFT ANIMAL AND PER TRACTOR

No of draft animals (lakhs)	No of tractors (thousands)	Total cropped area (lakh acres)	No of acres per draft animal (Col 3/Col 1)	No of acres per tractor (Col 3/Col 2)
1	2	3	4	5
672 (1951)	9 (1951)	3,259 (1950-51)	4 85	36,211
778 (1961)	34 (1961)	3,728 (1958-59)*	4 79	10,965

Source India—A Reference Annual 1963, Government of India (1963), and *Agricultural Situation in India,* April, 1962

*Latest available

The number of acres per draft animal remains more or less same at about 5 acres over the last decade 1951-61 Though the tractors have increased four-fold during this period, they have not significantly reduced the importance of draft animals In 1951 there was one tractor for as many as 36,211 acres, while at present there is one tractor for 10,965 acres In view of certain glaring limitations such as lack of adequate capital, technical know-how, timely availability of spare parts and the small size of holdings, mechanization of Indian agriculture on a large scale is a remote possibility The study of agricultural implements and machinery reveals the preponderance of bullock-drawn implements

Determinants of the Draught Power

The draught power requirement in agriculture is broadly governed by the method of cultivation — irrigated or dry farming, size of draught animals, crop pattern — mono-cropping or double-cropping and size of holdings Examination of the relationship between draught animals and the area cultivated shows that the bigger the size of holding the lesser is the number of draught animals required for cultivation This implies that there is inverse relation between the number of draught animals and the size of holdings "We have to remember that as the cultivation is more individualistic, every farmer finds it necessary to keep a pair or more of bullocks if he can afford to do so, for the more the number of holdings (per 100 acres of cultivated land) the more is the number of draught animals"[7] The influence of irrigation by wells and draught power is also pointed out by the same study " the number of draught animals per 100 acres of cultivated land increases as the percentage of irrigated area by wells also increases" The number of labour days per acre is influenced by crop pattern in addition to irrigation As compared to food crops, cash crops require more animal labour Even in respect of food crops the labour required for paddy cultivation is comparatively more than that for other crops Again, bullock labour requirement naturally goes up with the increase in the acreage cropped more than once

The preponderant role of bullock power for farm operations is bound to continue until agriculture undergoes a complete structural and technical change It is however necessary to reduce the number of bullocks on the farms by improving their quality.

Farmyard Manure

Farmyard manure, the main means of conserving the soil fertility, is one of the important by-products of animal husbandry. The farmer in India often maintains the animals, among other reasons, for the purpose of collecting manure, irrespective of the fact whether he has adequate fodder resources or not The farmyard manure is usually collected in the manure pits Most of these pits do not conform to any scientific standard like the compost pits As a result, the manure collected in the dung pits is exposed to such factors as heat, storms and rains which cause substantial loss of chemical ingredients of the manure

---

[7] Studies in Economics of Farm Management in Bombay State—Report for the year 1954-55, Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India (1958), p 30

The chief deficiency of most soils in India is nitrogen, " . . it is not difficult to ensure increased yield by manuring and especially by manuring with nitrogen for which the land has the greatest hunger "[8] It should be noted that a large proportion of farmyard manure is wasted in the form of fuel and outside droppings It has been roughly estimated that "40 per cent of what is produced is used as manure, another 40 per cent is used as fuel and the remainder is lost due to difficulties of collection "[9]

End-Products of the Carcasses

The animals serve as a source of income even after death, as their hides, bones, blood and other offals have many uses Leather products are made of hides, bones, blood and other offals can be processed and used as manure Some of the items are also used in the manufacture of drugs, lubricants, etc. In spite of the high economic value of the dead animals, no systematic effort is made in the villages for making their proper use Even when the animals are flayed by the local flayers, only hide is utilised. Regarding the use of by-products of the dead animals, the Board of Economic Inquiry, Punjab conducted a survey in 1954-55 in the Punjab[10] and its observations are generally applicable to other States in India also The survey discovered that (1) nearly 30 per cent of the dead animals are not flayed at all but left to vultures or buried, (2) the methods of removal, flaying and tanning are crude resulting in low quality hides, (3) parts of the animals flayed are not fully and properly utilised, (4) processing of such parts is limited and partial, and (5) a perusal of price spreads between the primary collectors of animal by-products and the final consumers shows that there is a large scale exploitation of the former by the intermediaries

ANIMAL HUSBANDRY PRACTICES

The role of farm animals is very significant in providing milk and milk products to the farmers' diet, the services of draught animals for cultivation of land, farmyard manure for soil fertility and end-products after death as additional income to the cattle owners All these utilities of the farm animals are not fully exploited The poor animal husbandry practices such as inadequate feeding, defective breeding, absence of disease control and irrational management of other animal husbandry activities, explain the unsatisfactory nature of livestock economy

---

[8] W Burns Technological Possibilities of Agricultural Development in India (1944), p 121

[9] Memorandum on the Development of Agriculture and Animal Husbandry in India, Imperial Council of Agricultural Research (1944), p 27.

[10] Utilization of Dead Animals in the Punjab, Publication No. 31 (1955), p 58

Animal feeding is inadequate and unscientific It is estimated that "the quantity of fodder available is about 78 per cent of the requirements while the available concentrates and feeds would suffice only for about 28 per cent of the cattle "[11] As concentrates are usually given only to animals which are heavily worked either for milk or draft purposes, it can be said that two-thirds of the cattle can be maintained in a fair condition on the existing fodder and feed resources "[12] Inadequacy is accompanied by malnutrition also, as the farmers do not adopt scientifically recommended feeding standards These standards are generally practised by cattle breeding farms and agricultural experiment stations In view of the limited availability of fodder resources, cattle are left to graze in the open with the result that the grazing lands are overcrowded. Large numbers lead to poor feeding and poor feeding comes in the way of attempts to raise productivity There is thus a vicious circle which it is difficult to break

It is observed that majority of the animals in the villages are of mixed breed and referred to as non-descript This is largely due to the absence of a systematic or selective breeding In the Bombay-Karnatak region, it has been found out that as many as 47 per cent of the milch animals in heat were covered by the herd-service as against 14 per cent by the Government stud bull system Local breeding bulls accounted for 39 per cent The dominating role of herd-service in the villages leads to the deterioration in the quality of cattle and buffaloes. Breeding is not only indiscriminate but it is also haphazard Animals in heat are not, in many cases, covered in time. Thus, heat periods are often missed and the calving interval is usualy lengthened. "By skilled management it should be possible to breed from them earlier and reduce the dry period by at least three months "[13]

---

[11] Dr W Burns calculated that concentrates and roughages were sufficient for only 29 14 per cent and 78 53 per cent respectively of the cattle population Technological Possibilities of Agricultural Development in India, *Op cit*, p 111

[12] Report on the First Five-Year Plan, p 273

Management in the field of animal husbandry includes besides feeding and breeding, various aspects such as taming and treatment of the animals, shelter and storage of fodder and manure Animal management is deplorably unsystematic and unhygienic Cattle sheds are generally insanitary Segregation of diseased animals is not observed in most of the cases Contagious diseases like foot and mouth disease and parasitic infections severely affect productivity of milch and draught animals Above all, the farmers neglect the healthy maintenance of animals because of the absence of readily available veterinary facilities Fodder and chaff produced on the farms are not properly stacked and are liable to be wasted. Besides, the farmers hardly practise silage

Improvement Measures

The necessity of maintaining the productive role of animal husbandry need not be emphasised In the words of the Royal Commission on Agriculture[14] "India has acquired so large a cattle population and the size of the animals in many tracts is so small that the task of reversing the process of deterioration and of improving the livestock of this country is now a gigantic one, but on improvement in cattle depends, to a degree that is little understood, the prosperity of agriculture, and the task must be faced" This remark made 37 years ago is eminently valid even today The entire question of cattle improvement boils down to the problem of (a) improvement of quality of the animals, (b) the reduction in the number of animals and (c) efficient management of animal husbandry activities The solution of these problems largely lies in remedying various unfavourable factors such as poor practices of animal husbandry, poverty of the farmers, public apathy and inadequate transport facilities Besides, it is necessary to do away with unserviceable and unproductive animals. For this purpose, some effective measures for animal husbandry development such as levying of taxes to discourage the maintenance of unproductive animals, compulsory castration of scrub animals, sterilisation of female species unfit for productive performance and planned slaughtering are necessary

---

[13] W Burns *Op cit*, p 109

[14] Report of the Royal Commission on Agriculture in India (1928), p 191

Most of the farmers do not possess their own grazing lands, nor can the common grazing lands be relied upon for the increasing requirement of animal feeds and fodder The Grow More Food Campaign envisaged the bringing of such common lands and other waste lands under the plough In view of these considerations, supply of fodder may be ensured by increasing the scope of mixed farming This type of farming contemplates a sound balance between crop production and cattle maintenance keeping in view the capability of the land to support the optimum number of cattle heads Besides, mixed farming naturally follows from the long-standing inter-dependence between crop production and animal husbandry. The Agricultural Production Team of Ford Foundation has remarked that "the development of agriculture on mixed farming lines seems to be the most rational pattern for agricultural development in India "[15] Thus it is obvious that crop production and animal husbandry should be treated as complementary for mutual benefit The Planning Commission has also emphasised this importance and made a plea for popularising and systematising mixed farming.

LIVESTOCK POLICY IN INDIA

Livestock policy has a definite place in India's agricultural planning During the First Plan, the policy for animal husbandry (including dairying) development was very general in its approach The programme of livestock improvement is sought to be implemented mainly through the key village scheme, supplemented by measures like disease control, veterinary education, etc The Second Plan put forth a definite cattle breeding policy and made provision for research at national, regional and State levels The same policy has been continued in the Third Plan with expanded scope and certain additional measures Before going into details of this policy, certain legislative measures enacted prior to the launching of development programmes under the Plans need critical appraisal To improve the health of the cattle, many States have enacted Livestock Improvement Act and Control of Contagious Diseases Act The Livestock Improvement Act provides for compulsory castration of scrub bulls, penalty on keeping of unapproved bulls for breeding and veterinary aid when required It is, however, observed that this Act has not been implemented effectively excepting castration of bulls of willing cattle owners

---

[15] Report on India's Food Crisis and Steps to Meet It, The Agricultural Production Team sponsored by the Ford Foundation, Government of India (1959), p 231

The Control of Contagious Diseases Act recognises contagious diseases and empowers veterinary officers to enforce compulsory inspection of premises where cattle are kept. It provides for regulating the inter-State and intra-State trade or movement of cattle and holding of markets and fairs, and enforces compulsory disinfection of vessels, vehicles and all infective materials The Act also makes provision for conducting post-mortem, isolation of infected animals, compulsory inoculation of animals and other measures which may be necessary for the prevention or spread of the scheduled diseases It lays down a penalty for non-compliance of any of the instructions to enable cattle to be protected This Act has not been effectively enforced, excepting for the Departmental measures like inoculation and vaccination in times of epidemic break-out For instance, more than 50 per cent of the attacks by contagious diseases end in death[16] This perhaps is due to lack of quick reporting of the diseases and the absence of immediate availability of veterinary help These shortcomings are aggravated by the fact that veterinary hospitals and dispensaries are too few in number There was one hospital for every 77,000 bovine population at the end of the First Plan and one for about 57,000 at the end of the Second Plan The number of veterinary hospitals and dispensaries is expected to increase to 8,000 during the Third Plan period[17] Till 1962-63, about 92 per cent of the inoculable bovine population in the States has been vaccinated against rinderpest[18] At the time of epidemics the enforcement

---

16 Administrative Report of the Department of Animal Husbandry Services in the Mysore State for the year 1957-58, Government of Mysore (1959)

17 Report on the Third Five-Year Plan, p 349

18 The Third Plan Mid-term Appraisal, Planning Commission, Government of India (1963), p 93

of the Act is a little better However, it is evident that these Acts need more effective implementation

Cattle Breeding Policy

Since time immemorial the Indian cow is known for its multipurpose utility The recent trends in breeding policy aim at evolving and developing "dual purpose" breeds, which will provide both good bullocks for effective cultivation and increased quantities of milk for human consumption This proposition may be open to controversy but this seems to be guided by the greater demand for milk from increased tempo of urbanisation and by the utmost necessity of bullock power for agricultural operations under the existing situation The all-India breeding policy drawn up by the Indian Council of Agricultural Research and accepted by the Central and State Governments envisages that in the case of well-defined milch breeds the milking capacity should be developed to the maximum by selective breeding and the male progeny should be used for the development of 'non-descript' cattle In the case of well-defined draught breeds, the aim is to put as much milk into them as possible without materially impairing their quality for work[19] Besides pursuing these objectives during the Third Plan, as an experimental measure, it is proposed to undertake cross-breeding with exotic breeds in regions of high altitude which have heavy rainfall To meet the requirements of imported stock, it is proposed to set up a farm for maintaining a nucleus herd of Jersy animals

For the implementation of the cattle breeding policy each State has been divided into zones according to the breeds used in them Thus, in the districts of Ahmedabad, Kaira, Broach and Surat, the recognised breed is 'Kankrej' In the western tracts of U P. like Saharanpur, Muzaffarnagar, Aligarh, Mathura, etc , the usable breed is 'Hariana' In the hilly tracts such as Dehra Dun, Garhwal, Almora and parts of Nainital where the cattle are non-descript, Sindhi bulls have been recommended

Cattle Insurance

Epidemics take a huge toll of deaths. The total annual loss to the country through epizootics has been estimated at Rs 3 crores Indirect effects of the contagious diseases also are dangerous In view of these considerations, the problem of cattle insurance was examined as early as 1950 But only recently a beginning has been made by the Co-operative Mutual Insurance Company, Bombay, to insure milch animals and draught cattle in the States of Maharashtra and Gujarat Schemes to investigate the possibilities of cattle insurance have been proposed by Andhra Pradesh, Uttar Pradesh, Maharashtra, Rajasthan, Mysore, Madras and Punjab

---

[19] Report on the Second Five-Year Plan (1956), p 284

ANIMAL HUSBANDRY PROGRAMMES UNDER COMMUNITY DEVELOPMENT SCHEMES

The Community Development programme has been considered as an important method for the integrated and intensive development of the rural areas This programme envisages, among others, the improvement of animal husbandry. Livestock improvement measures included in Community Development programme consist mainly of (a) castration of scrub bulls, (b) inoculation and vaccination when any epidemic breaks out, (c) treatment of diseased animals, (d) distribution of premium bulls, (e) popularising fodder crops and (f) holding advisory meetings. Besides these improvement measures, the key village scheme has also been introduced in a number of blocks as an integrated means of development of animal husbandry.

The Planning Commission in India has advocated the key village schemes for an all-round development of animal husbandry in its Five-Year Plans The scheme envisages castration of scrub bulls, breeding operations controlled by artificial insemination centres (each of which is intended to serve 5,000 cows of breeding age), rearing of calves on a subsidised basis, development of fodder resources and the marketing of animal husbandry production on co-operative lines Consequently, intensive cattle improvement has been undertaken in selected areas. In all, 2,000 key village units have been set up to the end of the Second Plan and during the Third Plan it is proposed to expand 64 existing blocks and set up 79 new blocks In the first two years of the Third Plan, 32 new blocks were established and 36 existing blocks were expanded[20] The coverage of each block is also to be expanded in the Third Plan so as to contain 10 key village units while each key village block in the First and Second Plans contained 4 units and 6 units respectively

---

[20] The Third Plan Mid-term Appraisal, *Op cit*, p 93

The working of these schemes has shown that the work so far done is mainly concerned with veterinary aspects rather than animal husbandry proper Besides, no definite programme has been undertaken for the purpose of increasing the acreage under fodder crops Little progress has been achieved by the calf-subsidy scheme and co-operative marketing of animal husbandry products "The All-India Key Village Scheme was planned as a co-ordinated programme which would bring about improvement in feeding, management, breeding and marketing In practice, however, this integrated approach was ignored or at least neglected As a result, practically the only tangible evidence that the Key Village Scheme was undertaken, has been the calves produced by artificial insemination Beneficial possibilities of this phase of the scheme have been largely eliminated, however, because of failure to improve feeding practices"[21]

The key village scheme, which has been the main programme for intensive cattle development during the first two Plans, has been recently re-examined by an expert committee appointed by the Planning Commission before drafting the Third Plan The Committee has suggested that State Governments should review the operation of the key village blocks with a view to improving their working and closing down such of the blocks as have not produced satisfactory results To overcome the shortage of high grade bulls, it has been recommended that State Governments should formulate well-considered purchase programmes, and progeny testing programmes should be taken up at Government farms as well as private farms where the necessary facilities exist or can be provided To achieve satisfactory breeding control in the key village areas, it is proposed that the castration programme should be intensified and propaganda undertaken in favour of early castration of males It is also proposed that the programme for the rearing of bull calves in key village areas should be expanded The Committee has drawn attention to the fact that the feed and fodder development programme associated with the key village programme has not made satisfactory progress To remove this defect, it has made a number of recommendations, including better use of the existing fodder resources, control of grazing where pastures have been developed, cultivation of fodder crops on marginal and sub-marginal lands, introduction of suitable leguminous crops in rotation with paddy, construction of silo pits and popularisation among farmers of cultivation of pasture grasses and feeding of balanced rations The need to organise the marketing of livestock and livestock products through co-operative marketing societies of cattle owners has been stressed A number of proposals has also been made for improving existing arrangements concerning artificial insemination[22]

---

[21] Report on India's Food Crisis and Steps to Meet It, *Op. cit*, p 231

All the above suggestions and certain new measures like the establishment of in-service training centres and setting up of marketing cells in the Animal Husbandry Department have been proposed for implementation during the Third Plan A provision of Rs 5 19 crores has been made in the Third Plan for this scheme. With a view to stepping up the milk production for meeting increasing needs and holding the price line in urban areas, the States have been advised to take up intensive cattle development work by locating the expanded key village blocks envisaged under the Third Plan in the milk-shed areas of dairy projects duly supported by feeds and fodder development and rural dairy extension programmes

Research and Education

Livestock can make a larger contribution to public health and to the economy of the country if improvements are brought about through judicious breeding, proper feeding, adequate protection against losses from diseases and other causes The improvement in the general conditions of husbandry and management should be simultaneously taken up All these development programmes have to be based on extensive scientific research During the First Five-Year Plan, apart from research schemes sponsored by the Indian Council of Agricultural Research, veterinary research and animal husbandry in general did not receive sufficient attention. The Second Five-Year Plan, however, provided for a more comprehensive programme of development of animal husbandry and expansion of research facilities Accordingly, animal husbandry research has been organised at three levels, *viz*, national, regional and State The Indian Veterinary Research Institute and the National Dairy Research Institute are the Central institutes at the national level. These are mainly responsible for fundamental work on problems of national importance, development and standardisation of new techniques (including biological products) and institution of specialised post-graduate courses, etc These institutes are being strengthened and expanded during the Third Plan period

---

[22] Report on the Third Five-Year Plan, pp 346-47

Since the geographical factors influence animal husbandry conditions, many research problems of regional importance are best studied in regional institutions For animal husbandry research and development, the country has been divided into four regions, namely, temperate (Himalayan), dry (northen), eastern and southern regions It is proposed to develop four research institutes, one in each of the four regions The First Five-Year Plan initiated these stations through the Indian Council of Agricultural Research and consequent plans have strengthened them with adequate finance The Indian Council of Agricultural Research has also organised nucleus centres for veterinary research in most States The State Governments have provided in their plans for the further strengthening of their existing organisations It is important that the results of research carried out at the central and regional institutes are applied and adapted to local conditions In order to provide trained personnel for implementing the development programmes, 14 veterinary colleges including five post-graduate colleges have been established during the First and Second Plans In the Third Plan, there is a proposal for establishing two more colleges It is expected that all these colleges would produce 5,800 graduates by the end of the Third Plan as against the requirements of 6,800 veterinary graduates

DAIRY DEVELOPMENT

The place of dairy farming in the development of the agricultural economy is now fully recognised The importance of milk as a wholesome diet containing almost all vitamins and making good the deficiencies of the preponderantly cereal diet needs no emphasis The dairy industry in India is, however, faced with several problems such as, scattered and small scale milk production, inadequate transport facilities in most parts of the country, dependence on imported plant and machinery required for milk collection, processing and manufacturing, shortage of technical and skilled personnel and the lack of properly organised system of marketing Efforts have, therefore, to be directed towards the collection of surplus milk from rural areas on an organised basis and the development of assured supply of good quality milk and milk products at reasonable prices to the consumers

In view of the above considerations dairy development programmes under the Plans include establishment of city milk plants, colonisation of cattle, establishment of milk products factories and rural creameries, rural dairy extension and training of technical personnel. For all these programmes, there was a provision of Rs 7 81 crores and Rs 17 44 crores in the First and Second Plan respectively The Third Plan has allotted Rs 36 crores for the dairy development programmes

During the Third Plan, 55 new milk supply schemes are proposed to be taken up in cities with population exceeding one lakh and in growing industrial townships. There are already 63 dairy plants in operation which have been set up during the First and Second Plans Besides, there will be 8 rural creameries, 4 milk product factories and 4 cattle feed compounding factories during the Third Plan as against 12 rural creameries and 7 milk product factories established by the end of the Second Plan. Cattle colonies have been organised at Haringhatta (Calcutta), Madhavapuram (Madras) and Aarey (Bombay) Training in dairying has been taken up at five centres in Karnal, Bangalore, Aarey, Anand and Allahabad with the assistance of United Nations International Children's Emergency Fund Special courses in dairy engineering and dairy extension have been started at Karnal Under the dairy training programme instituted in 1960 with the assistance of F A O and the Government of Denmark, two courses were held during 1962-63 for the benefit of trainees from Asia and the Far East

Other Development Schemes

There are numerous other development schemes which are at different stages of implementation These schemes are concerned with feed and fodder development, calf rearing, *goshala* development, *gosadan*, stray and wild cattle catching, improvement of hide flaying, curing and carcass utilization, nomadic cattle breeders, sheep and wool development, piggery development and poultry development

The Central Council of *Gosamvardhana* was reorganised in 1960 to assist private institutions and organisations which are already engaged in cattle development, particularly the cow The Council performs specific functions of organising, implementing and co-ordinating the activities relating to the preservation and development of cattle It also administers schemes for increasing milk yield and improving draught quality The Council runs training centres for *goshala* and *charmalaya* workers, organises exhibitions and issues journals and pamphlets to field workers Eventually its attempt would be to bring about a better co-ordination between various agencies interested in *gosamvardhana* work

CONCLUSION

The animal husbandry and dairy development policy under the Plans seems to be well-conceived But these development programmes continue to face serious difficulties — technical, administrative and practical In spite of the emphasis on providing trained technical personnel, the available supply of veterinary graduates is yet not adequate Similar is the case in respect of stockmen, dairy technologists and engineers, etc Administrative difficulties crop up at the time of implementation First and foremost drawback in implementing the development programmes is the lack of co-ordination among various departments through which these programmes are carried out In the case of some Community Development Project and N E S blocks there is no well-defined demarcation of functions between block officials of animal husbandry programmes and animal husbandry development personnel. It is therefore necessary to formulate a well-integrated programme for animal husbandry including the key village scheme, mixed farming and dairy development, irrespective of where the work is done or who does it In view of development measures for rural reconstruction such as community development, integrated agricultural production programme (Package Scheme), key village scheme, integrated credit system, etc , the urgency is keenly felt of teamwork among various departments of the Government and of enlisting people's co-operation and participation Moreover, technical personnel in animal husbandry, agriculture, co-operation, community development and related subjects, instead of working in compartments, have to work together as a team It is also necessary that in view of the importance of animal husbandry and dairying in India's economy, the allocation of resources to this sector should be raised.

PART II

CHAPTER VII

EVOLUTION OF INDIAN AGRICULTURAL POLICY

TRADITIONAL AGRICULTURE IN INDIA

Before the advent of the British, India had evolved a socio-economic structure which maintained some kind of a static equilibrium Population growth was slow, the pressure on land was not yet felt Traditional agriculture developed as a part of this pattern of socio-economic evolution The methods of cultivation had settled down to a customary routine based on the practical experience of generations of shrewd, though not educated, farmers The stratification of rural society on the basis of the caste system provided a shelter for everyone, however humble, above all, the old village economy based on self-sufficiency was a protection against political cataclysms[1] The standard of living was by no means high but India had developed a fairly balanced economy. The fame which India had earned in the outside world for her handicrafts and artistic products was maintained, her ships crossed far-off seas The high state of 'industrial' development in India at this time when the West of Europe, the birth-place of modern civilisation, was still in a primitive stage, has been a fact of recorded history[2] The impact of modern industrialism destroyed the self-sufficiency of the village The old towns, the centres of handicrafts and manufactures decayed The old social order based on status and custom gave place to a new one based on contract and the cash nexus with a centralised system of administration While the old system was allowed to crumble, nothing new was designed to be put into its place

---

[1] "The cultivator is thus a member of a definitely organised community, which has, as far back as the history of social organisation in India can be traced, been dependent on itself for the means of living and, to a very large extent, for its government" As a result, the typical cultivator is within the sphere of his experience, self-reliant and "both his methods of cultivation and his social organisation exhibit that settled order which is characteristic of all countries in which the cultivating peasant has long lived in, and closely adapted himself to the conditions of a particular environment" Report of the Royal Commission on Agriculture in India (1928), p 479

[2] Minute of Dissent by Pandit Malaviya, Report of the Indian Industrial Commission (1918), pp 296-97 See also R C Dutt Economic History of India under Early British Rule, 1757-1837, Vol I (1901), p vii, where India is described as "a great manufacturing as well as a great agricultural country" in the 18th century, the products of the Indian looms supplying the markets of Asia and Europe

BEGINNINGS OF AGRICULTURAL POLICY

The series of famines in the country after the 'seventies of the 19th century impressed on the Government the need for placing Indian agriculture on a sounder footing and improving the economic conditions of the masses The Famine Commissions of 1880, 1898, and 1901, the Irrigation Commission of 1903 and the Committee on Co-operation of 1915 made several constructive suggestions for the improvement of agriculture and for the promotion of the welfare and prosperity of the rural population

The Commission appointed in 1866 after the great famine of Bengal and Orissa proposed for the first time the creation of a special agricultural department This was however considered 'premature'. In 1869, the cotton interests in England which had considerable influence in shaping the agricultural policy of the Government of India urged the Secretary of State to undertake measures for the improvement of cotton in India and with that purpose, to set up a separate Department of Agriculture in each province However, little real progress could be made until 1880 The Famine Commission of 1880 made a thorough enquiry into the problem and made extensive suggestions in their report for agricultural improvement The provision of irrigation facilities and the improvement and extension of the means of communication were among the main recommendations of the Commission The Commission also recommended that industries should be developed to absorb the surplus population on the land It referred to the unfortunate circumstances that made "agriculture almost the sole occupation of the mass of the population" and pointed out that "no remedy for present evils can be complete which does not include the introduction of a diversity of occupations through which the surplus population may be drawn from agricultural pursuits, and led to find the means of subsistence in manufactures or some such employments."[3] The other proposals of the Commission were: (i) the revival of the Department of Agriculture of the Government of India to be entrusted with "the duty of collecting experience of past famines and of undertaking definite and permanent charge of the administration of famine relief," (ii) the simultaneous formation in all Provinces, of Departments of Agriculture with a large subordinate establishment working under each Director of Agriculture, (iii) the distribution of loans to farmers by Government on the security of land, and (iv) the appointment of special courts to examine the debts of agriculturists with a view to effecting an equitable reduction and arranging for payment by instalments As the Royal Commission on Agriculture mildly put it "The Government of India took no immediate action on the proposals. . ." and, "the next ten years were spent mainly in conferences and in investigating the position in the Provinces with a view to discovering the lines of development best suited to their needs."[4]

DR VOELCKER'S REPORT

The improvement of agriculture in India was first thought of in terms of agricultural chemistry. Dr J A Voelcker, Consulting Chemist to the Royal Agricultural Society was deputed to India in 1889 "to advise upon the best course to be adopted in order to apply the teachings of agricultural chemistry to Indian agriculture" His report has left its impress on all subsequent investigations dealing with agriculture in India and the Royal Commission of 1928 also drew largely on it Dr Voelcker first of all exploded the myth that Indian agriculture was, as a whole, primitive and backward[5] In the opinion of Dr. Voelcker, the differences in agricultural conditions and practices in India were accountable to three factors

---

[3] Report of the Famine Commission, 1880, Vol I, p 175

[4] See Report, pp 17-18

[5] "At his best the Indian *raiyat* or cultivator is quite as good as, and, in some respects, the superior of the average British farmer, while at his worst it can only be said that this state is brought about largely by an absence of facilities for improvement which is probably unequalled in any other country Certain it is that I, at least, have never seen a more perfect picture of careful cultivation, combined with hard labour, perseverance, and fertility of resource than I have seen at the very many of the halting places in my tour" Report on the Improvement of Indian Agriculture (1893), p 11

(i) differences "inherent in the people themselves" as cultivating classes which distinguished certain castes and races as good at farming from others

(ii) differences "arising from purely external surroundings" such as (a) natural causes like climate, soil, facilities for water, manure, wood, grazing, etc, (b) economical or political conditions like the relative ease or difficulty of living, paucity or pressure of population, etc.

(iii) differences "arising from want of scientific knowledge," for instance, of the existence of diversity of agricultural practices in different parts of the country.

These differences have been illustrated in the report so as to indicate in each case the possibilities of improvement and the agencies, Government as well as private, through which and the manner in which these improvements could be brought about. While some of the differences are rooted in the physical and social environment and are therefore difficult of improvement, others are more easily amenable to reform. An analysis of agricultural conditions and problems along these lines at once gives the clue to the directions of improvement to which the agencies have to apply themselves The report discusses in turn, soils, manures, forestry, animal husbandry, seed improvements, rural education, research, the organisation of statistics, etc, and on each one of these heads, the suggestions offered have value even under present conditions

Dr Voelcker refers to "a pretty general belief that the soil *is* becoming less productive" and attributes this to the lack of manures and "the export of oilseeds, cotton and other products, besides an increasing one of wheat, all of which remove a considerable amount of the soil constituents "[6] In regard to the remedial measures, the report points out that "improvements in the system of land tenure, improvement of the land by expenditure of public and private capital on it and similar measures may alleviate the conditions of the Indian cultivator, but they will not give him larger crops and they will not provide the food that the people *must* have to live upon For this, the *soil* itself must be looked into, as it alone can produce the crops and manure alone can enable it to bring forth the necessary increment "[7] The appropriate remedies suggested are irrigation by canals, tanks and wells and the use of manures

---

[6] Report, p 39

As to manures, it is pointed out that the Indian cultivator was not ignorant of their utility The practice of burning of cow-dung was largely due to the absence of cheap fuel, it was therefore the duty of Government to provide the people with wood for fuel to prevent this wasteful practice[8] This indicated a new policy for protection of forest resources and for the promotion of arboriculture. The report emphasises the need for a change of outlook on the part of the Forest Department and observes, "the results must not be gauged by financial considerations alone, but by the benefits conferred on the agricultural population, the keeping up of the soil's fertility and the maintaining of the Land Revenue to the State "

Among "the economical and political conditions" which contributed to the low productivity of Indian agriculture, the report mentions the small size of holdings, want of capital, rural indebtedness and defective land tenures[9] It emphasised the need for detailed scientific investigations on agricultural practices in India, cautioned against the belief that western knowledge and practice could simply be grafted on to Indian practices and argued the case for general as well as agricultural education

AGRICULTURAL POLICY UPTO 1905

The policy upto 1905 was directed to the strengthening of the departmental organisation on the basis of the recommendations of Dr Voelcker. At the suggestion of the Agricultural Conference held in 1890 Dr J W Leather was appointed Agricultural Chemist to the Government of India The need for development in other directions was also felt soon. In 1901, an Inspector-General of Agriculture, and a Mycologist, and in 1903, an Entomologist were appointed About this time Mr Henry Phipps of Chicago offered a donation of £30,000 to Lord Curzon to be applied to some object of public utility, preferably connected with scientific research This donation was used for the establishment of the Agricultural Research Institute at Pusa in the year 1903. In the meanwhile, there was a series of droughts between 1895 and 1899 The famine of 1899 was "the greatest in extent and intensity which India has experienced in the last 200 years" The famine relief organisation in the Provinces was found inadequate to cope with this emergency [10] The Famine Commission of 1901 found that "the steady application to agricultural problems of expert research is the crying necessity of the time," and recommended (i) strengthening of the staff of Agricultural Departments in all provinces, (ii) further legislation on the lines of the Punjab Alienation of Land Act to restrict transfers of land, and (iii) the introduction of co-operative credit societies along German lines In the meanwhile, ten retired British officials and R C Dutt addressed a memorandum to Lord George Hamilton, the Secretary of State, in which they argued that the malady of Indian agriculture was more deep-rooted, and that at the back of it all was the land revenue system [11] This memorial evoked by way of reply Lord Curzon's famous Resolution of January, 1902, trying to vindicate Government's land revenue policy The demands made in the memorial were turned down, but this criticism of Government policy did hasten the introduction of reforms [12] The passing of the Co-operative Societies Act of 1904, the expansion of the Imperial and Provincial Departments of Agriculture in 1905, the constitution of the Indian Agricultural Service in 1906, the rapid expansion of irrigation in the course of the next fifteen years — all these testify to the fact that the problem of Indian agriculture was by now assuming a new significance, that the emphasis was changing from *palliatives* like famine relief, *"takavi"* grants and revenue remissions to more positive measures

---

[7] *Vide* Report, pp 41-42 (Italics in the original)

[8] "More wood means more manure, more manures mean more crops and more crops mean an increasing revenue to the State, to the cultivator, it implies more fodder, better cattle and more manure again to ensure the future fertility of the soil " *Ibid*, p 137

[9] *Ibid*, p 289

---

[10] Cf The Commission of 1901 emphasised the lack of real preparation 'In no province were well considered programmes of public or village works ready at the beginning of the famine' E Thompson and G T Garratt Rise and Fulfilment of British Rule in India (1935), p 563

[11] See Thompson and Garratt, *Ibid*, p 565

[12] *Ibid*

On the whole, by 1905, a certain desire on the part of Government to promote agricultural improvements was discernible. The absence of precise data on which to work was, however, a main handicap Various Provincial Governments made isolated attempts to promote agricultural research and improvement; but "the magnitude of the problem which confronted them was so great that it was difficult for them to get down to essentials and they had neither the trained staff nor the organisation to carry into effect such recommendations as they were in a position to make "[13] Moreover, the total impression made by the measures mentioned above on the rural economy was small

WORLD WAR I AND AGRICULTURAL POLICY

During World War I, there was no large change in the agricultural policy of the Government The years immediately after 1914 were fairly good, but during 1918-19 crops failed almost all over the country leading to severe famine There was a general rise in commodity prices in India, which moved in sympathy with that of the rest of the world The existence of a system of control of food supplies and regulation of exports of foodstuffs as also foodgrains imports relieved the situation created by the failure of the monsoon The Government introduced a rigid system of internal control and a scheme for a proportionate distribution of provincial surpluses Government machinery for famine relief in India attained a high state of development and organization through considerable experience and it worked especially smoothly in 1918-19 [14]

PROGRESS SINCE 1919

The Reforms of 1919 transferred to the Provinces the services of agriculture, co-operation, local self-government, public health and sanitation Though even in regard to these transferred subjects the Central Government had certain powers of superintendence, direction and control, it was no longer permissible "to incur expenditure from central revenues on Provincial subjects" except on agricultural research and the training of research workers in central institutes The Provinces, on the other hand, had no real initiative as finance was not under their control Therefore, except for a considerable extension of irrigation, little progress was noticed in agricultural improvement till the passing of the Government of India Act, 1935 which granted a measure of autonomy to the Provinces

---

[13] Report of the Royal Commission on Agriculture in India (1928), p 29

[14] D R Gadgil The Industrial Evolution of India in Recent Times, Third Edition (1933), pp 200-203

ROYAL COMMISSION ON INDIAN AGRICULTURE (1928)

The first comprehensive survey of the various problems of agriculture in India was made by the Royal Commission on Agriculture in India. The Report of the Commission (1928) has rightly become the starting point for all further discussions on the subject By its terms of reference, the Commission was asked to examine and report on the conditions of agriculture and rural economy in British India and to make recommendations for the improvement of agriculture and the promotion of the welfare and prosperity of the rural population In particular, the Commission was to investigate: (a) the measures being taken for the promotion of agricultural and veterinary research, experiment, demonstration and education, for the compilation of agricultural statistics, for the introduction of new and better crops and for improvement in agricultural practice, dairy farming and the breeding of stock, (b) the existing methods of transport and marketing of agricultural produce and stock, (c) the methods by which agricultural operations are financed and credit afforded to agriculturists; (d) the main factors affecting the rural prosperity and the welfare of the agricultural population

The whole problem of land revenue and land tenure was however excluded from the scope of the Commission's work This omission detracts considerably from the value of this otherwise comprehensive study It is also illustrative of Government's piecemeal approach under pressure of events For how could the promotion of the welfare and prosperity of the rural population be conceived without examining the basic land system of the country, that is the distribution of the ownership of land, the terms on which it is held or cultivated by the different rural classes, the relation of the cultivator to the landlord and to Government, and the whole system of land taxation? The Commission however recognised clearly that "the problem of improving Indian agriculture was really the problem of improving Indian village life and that this must be studied as a whole"[15] Towards this end, the report contains valuable suggestions which have served as the basis of agricultural improvement since 1928

One of the most important recommendations of the Commission was regarding the organisation of agricultural research. The object was "to promote, guide and co-ordinate agricultural research throughout India and to link it up with agricultural research in other parts of the British Empire and in foreign countries"[16] Hitherto the various Provincial Departments of Agriculture could undertake only limited activities due to lack of finance and technical personnel Besides, there was no co-ordination between the departments The Imperial (now Indian) Council of Agricultural Research was designed to provide effective co-ordination and to act as a clearing house of information, not only in regard to research but also in regard to all general matters pertaining to the development of agriculture and animal husbandry It would remain in close touch with the Provincial Departments of Agriculture and enlist the support and co-operation of Universities in the furtherance of agricultural research

The recommendations of the Commission on sub-division and fragmentation of holdings, improvement of livestock, irrigation, marketing, co-operation, rural education and rural reconstruction, in general, aimed at bringing about "greater efficiency throughout the whole field of agricultural production" so as "to render the business of farming more profitable to the cultivator."[17] The Commission emphasised the urgency of widening the outlook of the cultivator himself so that he may become not only a better instrument of production but also a better man The responsibility of Government was also clearly defined: "We have no hesitation in affirming that the responsibility for initiating the steps required to effect this improvement rests with Government, that the rural problem should be attacked as a whole, and at all points simultaneously; that the responsibility for framing policy and combining the activities of two or more departments in order to give effect to their policy must remain that of Government and Government alone," but that, at the same time, "success on a large scale can be rendered permanent only if the sympathy, interest and active support of the general public can be enlisted"[18] This was an excellent enunciation of a new agricultural policy But, events moved faster than the machinery of government

---

[15] Quoted in Sir John Russell Report on the Work of the Imperial Council of Agricultural Research in Applying Science to Crop Production in India (1939), p 2

[16] Report of the Royal Commission on Agriculture in India, p 48

[17] Report, p 672

DEPRESSION

The Great Depression started in 1929 Its effects were particularly serious in the primary producing countries though the industrial countries also suffered heavily Industrial production could adjust itself relatively more easily to the new conditions. The fall in prices of industrial commodities was therefore comparatively less and the process of recovery started earlier Agricultural prices fell precipitately, and rural incomes suffered drastic reduction

The rise in prices of agricultural commodities after World War I had not been so great as that in industrial products Further, many agricultural countries were debtor countries which had borrowed heavily in the past at high rates of interest and the payment of interest charges strained their balance of payments The need for drastic remedial measures was widely recognised The highly industrialised countries were faced with unemployment on an unprecedented scale They took steps to arrest the fall in prices to lessen the intensity of the depression. The measures taken included restrictions on imports, reduction in wages, slowing down of production, destruction of surpluses, price supports and various monetary and fiscal devices to prop up the economy There was considerable rethinking on basic policies, and, in the United States, a series of bold reflationary measures were taken in hand as part of the 'New Deal'

INDIA AND THE DEPRESSION

In India the depression had very adverse effects on the entire population as agriculture dominated the whole economy As in other countries, the prices of farm products fell more than those of industrial products Between September 1929 and December 1934, the price of rice and wheat declined by 47 per cent and 45 per cent respectively, whereas the decline in prices of cotton and jute manufactures was only 26 per cent and 38 per cent respectively The overall decline in prices of all commodities was 38 per cent[19]

---

[18] Report, *Op cit*, pp 672-673

The disparity between the fall in prices of agricultural products and in those of finished goods was also reflected in the price levels of our exports and imports The former consisted mainly of raw materials and food products and the latter of manufactured goods Between 1928-29 and 1933-34, the price level of exports declined from 97 5 per cent to 53 5 per cent and those of imports fell from 96 4 to 63 5 per cent during the same period[20]

As a result of the catastrophic fall in prices of agricultural products, the gross money incomes in this sector are estimated to have declined by about 50 per cent in 1933-34 as compared to 1929-30[21] According to the estimate made in the Review of the Trade of India, the value of principal crops in British India declined from Rs 10,21 crores in 1928-29 to Rs 4,74 crores in 1933-34 — a fall of nearly 53 6 per cent This was not accompanied by a similar fall in the costs incurred by the agriculturists, for, while some elements in such costs are elastic, others such as interest charges and land revenue were more or less fixed and could not be brought down The net money incomes of the farmer must, therefore, have fallen by more than 50 per cent The payment of Government dues absorbed an increasing proportion of the farmer's depressed income Although suspensions or remissions of land revenue were granted on a considerable scale, there was in this period a lowering of the farmer's standard of living and an increase in his indebtedness

---

[19] Review of the Trade of India, 1932-33, p 8 and 1934-35, Department of Commercial Intelligence and Statistics, India

[20] Review of the Trade of India, 1936-37, p 22

[21] This is testified by the various Provincial Banking Enquiry Committees' Reports and several village studies during the period *Vide* J C Kumarappa A Survey of Matar Taluka (Kaira District), Gujarat Vidyapith Economic Series (1931), p. 139

GOVERNMENT MEASURES IN INDIA

The Government of India took the view that the depression was due to world causes and that little could be done to counteract its effects While other countries initiated an expansionist policy under state direction and control, the authorities in India adhered to 'orthodox' principles of currency and public finance and concentrated their energies on balancing the budgets and maintaining the exchange ratio No systematic steps were taken either to increase exports or to decrease imports The Ottawa Pact with its principle of Imperial Preference was more a concession to Imperial Policy than an effort to improve the export trade of India The Mody-Lees Pact was in the nature of a political gesture of goodwill to Lancashire interests The de-linking of the rupet with gold brought little benefit as it was followed by the linking of the rupee to sterling at the old rate. The deflationary policy followed during the depression resulted in a high rate of interest in the earlier stages and a larger outflow of gold thereafter The International Restriction Schemes applied to India only in respect of tea and rubber, in jute, an effort was made to persuade the cultivator to restrict cultivation In sugar, the minimum price was guaranteed to sugarcane growers in the U P Barring these isolated items, no comprehensive scheme for improving agricultural incomes was taken up The fixed charges of the farmer remained at the same high level and except in the C P, (now Madhya Pradesh), no effort was made to reduce them by scaling down debts or by lowering rates of interest Expenditure on social services like health and education and on development was curtailed Instead of enlarging public works programmes, Government actually cut down such expenditure by about 33 per cent

WORLD WAR II AND INDIAN AGRICULTURE

World War II involved for the belligerents a total mobilisation of resources, agricultural as well as industrial, towards the single end of military success The European countries set about this objective with determination In India, however, only piecemeal changes were introduced in all sectors as circumstances pressed. The impact of war on India's agrarian economy was clearly visible in two spheres · crop pattern and prices The war deprived India's staple commercial crops of their export markets The commodities most affected were jute, groundnut, and cotton, the decline in exports between 1938-39 and 1940-41 in each of these being of the order of 64 per cent, 62 per cent and 18 per cent respectively[22]

Cultivators, on the other hand, inspired by the hopes of increasing prosperity as the war continued, were extending the cultivation of most of the commercial crops The steep decline in exports against the expansion in production resulted in large surpluses of these commodities

A decidedly opposite trend was noticeable in respect of food crops India was called upon to supply large quantities of wheat to the Near East, as imports from other countries became difficult for lack of shipping space The requirements of the military augmented the demand in India itself As the war spread to the East, imports of rice from Burma ceased altogether This resulted in a serious shortage of foodgrains With Japan's entry into the war, India lost her most important market for short staple cotton

Effect on Crop Pattern

These events necessitated a change in India's crop pattern in the direction of a large diversion from non-food crops to food crops This process was influenced both by the regulatory measures of Central and State Governments and by changes in relative prices The area under foodgrains increased from an average of 193 million acres for the triennium ending 1938-39 to the peak of 226 million acres in 1944-45, *i e*, by about 17 per cent, with a decline to 219 million acres in 1945-46 While the wheat acreage was steady, the area under rice increased by 10 1 million acres or 13 7 per cent. The largest increase was under *kharif* cereals, *viz*., jowar, bajra, maize, barley and *ragi* which increased by 19 6 million acres or 28 1 per cent The area under gram increased by nearly 2 million acres During the same period, the area under cotton declined by 9 8 million acres and the area under jute by 0 9 million acres, representing a decline of about 40 per cent and 28 per cent respectively[23] The area under groundnut and sugarcane showed some increase as after the Japanese occupation of the Dutch East Indies, the Philippines and Malaya, the demand for Indian groundnut revived. Sugarcane production went up in response to rising internal demand.

---

[22] Review of the Trade of India in 1941-42, Government of India (1943), pp 12-13

[23] Estimates of Area and Yield of Principal Crops in Undivided India, 1936-37 to 1945-46, Directorate of Economics and Statistics, Ministry of Agriculture, Government of India (1949), pp 10-13

Changes in output were much smaller than in acreage. The production of foodgrains during the period increased by 9 per cent, against a decline in the production of cotton and jute of 37 per cent and 26 per cent respectively. There is no positive evidence of a perceptible increase in agricultural production as a whole. According to official estimates, the total production of 19 principal agricultural commodities, expressed as a percentage of the average during the base period 1934-35 to 1938-39, showed a fall to 92.58 in 1945-46. For the eight commodities comprised in the foodgrains group, the index was 92.49.[24] Except for the years 1942-43 to 1944-45, the general trend appeared to be downwards.

Price Trends

The change in crop pattern was associated to some extent with the change in relative prices, as will be seen from Table I. The price movements as indicated were favourable to a substitution

TABLE I

INDEX NUMBERS OF WHOLESALE PRICES IN INDIA DURING WORLD WAR II

(Week ended 19th August, 1939=100)

	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46
Rice	114	130	164	232	703	334	329
Wheat	137	140	181	241	350	383	400
Raw Cotton	132	125	144	162	223	172	168
Raw Jute	197	113	137	151	200	274	199
Groundnut	109	87	115	187	284	229	239

---

[24] *Agricultural Situation in India,* Vol. III, No. 10, January, 1949, p. 54.

of food crops for non-food crops, but in the general upward trend, there were erratic relative changes from time to time The correlation between shifts in relative prices and production trends within the group of agricultural commodities since 1939 has been obscured by the upward movement in the general level of prices and the working of regulatory measures for price adjustment

A significant feature of the price changes during the war period was an improvement in the terms of trade between agriculture and industry By the end of the war, the general index of prices was close to 250 The index for agricultural commodities had risen to about 270, while that of manufactured articles was about 240 After 1945-46 the prices of agricultural commodities rose relatively less than those of manufactured goods, the increase in the prices of the former group being about 15 per cent

In evaluating the effects of the rise in agricultural prices on the rural community, the background of the agricultural situation in the inter-war period should be kept in mind The disastrous effects of the earlier depression on agricultural prices have already been indicated[25] While it is generally true that a period of high agricultural prices raises rural incomes the benefits are not evenly spread

The fall in the purchasing power of the rupee in the war and post-war period reduced the real burden of rural debt. Even here, the larger landholders benefited more than the rest The Review of the Co-operative Movement on the credit side indicated that "the main effect of the increase in agricultural prices has been to improve the repaying capacity of the borrower and not so much to reduce his need for fresh finance which, on the other hand, has risen with the cost of cultivation and maintenance."[26] The materials required for farming operations were in short supply, costs of cultivation rose progressively, while rural wages rose only moderately.

---

[25] The view was widely held that for the ten years or so before 1939, the Indian agriculturist had a 'raw deal' owing to the drop in prices of agricultural produce since the slump of 1929, that he had been selling his crops below the real cost of production and that he had greatly deteriorated in his finances and his scale of living This had been to some degree recognised by the Government of India in imposing an import duty on wheat in 1930 and in giving protection to the sugar industry in 1932 Sir Henry Knight Food Administration in India, 1939-47 (1954), pp 34-35

[26] Review of the Co-operative Movement in India, 1939-46, Reserve Bank of India (1948), p 8

It is probable, on the whole, that the bulk of the gain accrued to large landholders and traders in rural areas The lesson of war-time experience, clearly, is that broad-based rural prosperity is not a matter of relative price and income adjustments, such prosperity can come only from increased productivity.

The Partition of the country in August, 1947 was a violent shock to the economy. It aggravated the disequilibrium brought about by the war-time dislocation Apart from the immediate and unprecedented movement of displaced persons from one side of the border to the other and the consequent disruption of economic life over wide areas, the most serious effect on the Indian Union was a relative weakening of the agricultural potential. In the immediate transition period, Partition made India a large importer of food and raw materials The first priority in India's economic planning for the next few years has, therefore, to be on making good this deficiency

PLACE OF AGRICULTURE IN FIVE-YEAR PLANS[27]

With the initiation of the Five-Year Plans, agricultural policy in general has come to be viewed in the broader context of the development of the economy as a whole The emphasis is as much on a diversification of the economy as on development of agriculture as such or on the improvement of conditions in rural areas This involves an integrated view of the economy as a whole We may briefly review the views of the Planning Commission as stated in the successive Five-Year Plans on the question of agriculture's role in economic development Writing about the pattern of priority in the First Five-Year Plan, the Planning Commission states that "the conception of priorities over a period has to be a dynamic one, the emphasis as between different sectors shifting as development in those taken up initially prepares the ground for development in others"[28] Having laid down this broad principle, the Planning Commission proceeds to state: "For the immediate five-year period, agriculture, including irrigation and power, must in our view have the top-most priority For one thing, this emphasis is indicated by the need to complete the projects in hand, and further we are convinced that without a substantial increase in the production of food and of raw materials needed for industry, it would be impossible to sustain a higher tempo of industrial development In an under-developed economy, with low yields in agriculture, there is of course no real conflict between agriculture and industrial development. One cannot go far without the other, the two are complementary It is necessary, however, on economic as well as on other grounds, first of all to strengthen the economy at the base and to create conditions of sufficiency and even plentitude in respect of food and raw materials "[29] Consistent with this approach, of the total Plan (revised) outlay of Rs 2,356 crores, as much as 15 1 per cent was allocated to agriculture and community development and 28.1 per cent to irrigation and power (16 3 per cent to irrigation, 11 1 per cent to power and 0 7 per cent to flood control, etc) as against 7 6 per cent for industry and mining (6 3 per cent for large and medium industries and 1 3 per cent to small industries) It should, however, be mentioned that the Planning Commission held the view that at that stage the progress in industries, especially large-scale industries, would have to depend, to a great extent, on effort in the private sector, while the State would concentrate on the provision of basic services like power and transportation Though it was stated that the State had also "special responsibility for developing key industries like iron and steel, heavy chemicals and manufacture of electrical equipments without which development in the modern world is impossible," no significant allocation was made for the development of these key industries in the public sector

---

[27] M L Dantwala, "Economic Development and the Role of the Agricultural Sector in India," Paper submitted to the ECAFE in 1964

[28] Report on the First Five-Year Plan (1952), p 44

Agricultural production during the First Five-Year Plan increased substantially though in restrospect it appears that the bulk of it was due to the increase in the acreage and to good weather conditions At the end of the First Five-Year Plan, foodgrains production had increased from 55 million tons to 65 million tons, thus exceeding the target of 61 6 million tons laid down for the last year of the Plan Prices of agricultural commodities declined sharply The comfortable situation on the agricultural front in-

[29] *Ibid*

duced the Planning Commission, while formulating the Second Five-Year Plan, to shift the emphasis towards industrialization One of the major objectives of the Second Five-Year Plan was stated to be "rapid industrialization with particular emphasis on the development of basic and heavy industries "[30] The other objectives mentioned in this context were a sizeable increase in national income, a large expansion of employment opportunities and reduction of inequalities in incomes and wealth, but there was no specific mention of the development of agriculture Arguing the case for rapid industrialization, the Commission stated "Low or static standards of living, under-employment and unemployment, and, to a certain extent, a gap between the average and the highest incomes are all the manifestations of basic under-development which characterises an economy dependent mainly on agriculture. The core of development is thus rapid industrialization and diversification of the economy But, for industrialization to be rapid enough, basic industries like iron and steel, non-ferrous metals, coal, cement and heavy chemicals as well as industries which make machines for making machines have to be developed rapidly "[31] The criterion for investment resources was to be not merely immediate needs, but also the expanding needs as development went forward. The approach of balanced growth was not given up It was stated that balanced pattern of industrialization requires well-recognised effort to utilise labour for increasing the supplies of much needed consumer goods in a manner which economises the use of capital

Consistent with this view, the percentage of the developmental outlay (of Rs 4,800 crores) allocated to industry and mining was increased to 18 5 per cent (from 7 6 per cent in the First Five-Year Plan) and that for agriculture and community development was reduced to 11 8 per cent (from 15 5 in the First Plan) There was a similar reduction to 19 per cent from 28 1 per cent in the outlay allocated for irrigation and power The targets of agricultural production for the Second Five-Year Plan were also relatively modest For example, the production of foodgrains was to be increased from 65 million tons in 1955-56 to 75 million tons in 1960-61, an increase of 10 million tons in the five years of the

---

30 Report on the Second Five-Year Plan (1956), p 24

31 *Ibid*, p 25

Second Plan, as against an increase of 14 million tons achieved during the First Five-Year Plan Soon after, however, it was realised that the target for foodgrains production in the Second Five-Year Plan was rather low and the same was raised to 80 million tons without, however, making any addition to the financial allocation for agricultural development

Though in the last year of the Second Plan, foodgrains production nearly reached the revised target, in the preceding years, shortages were experienced resulting in substantial increases in foodgrains prices The Third Plan, therefore, restored the primacy of agriculture in its development programme Unlike in the Second Plan, the achievement of self-sufficiency in foodgrains and increased agricultural production to meet the requirements of industry and export found place in the principal objectives of the Third Plan It was stated that in the scheme of development during the Third Plan, the first priority necessarily belonged to agriculture The experience in the first two Plans and especially in the second, had shown that the slow rate of growth in agricultural production was one of the main limiting factors in the progress of the Indian economy This, however, did not imply relaxation of emphasis on the development of basic and heavy industries As a matter of fact, there appears to be a certain degree of ambivalence regarding the relative importance of agriculture and industry On the one hand, it was stated that "the development of agriculture based on utilization of manpower resources of the countryside and the maximum use of local resources holds the key to the rapid development of the country," on the other, it was also stated that "there is no doubt that industry has a leading role in securing rapid economic advance"[32] This was sought to be reconciled by the statement that "the growth of agriculture and the development of human resources alike hinge upon the advance made by industry Not only does industry provide the new tools but it begins to change the mental outlook of the peasant"[33]

Allocation of the financial outlay to the different sectors in the Third Five-Year Plan does indicate a slight shift in favour of agriculture Thus, the share of agriculture and community development in the total financial outlay was increased from 11 per cent in the Second Plan to 14 per cent in the Third, while the percentage allocated to major and medium irrigation remained constant at 9. Similarly, the percentage share of organised industry and minerals also remained constant (20 per cent) for the Second and the Third Plans. It was further stated that "in formulating agricultural production programmes for the Third Plan, the guiding consideration has been that the agricultural efforts should not be impeded in any manner for want of financial or other resources Accordingly, finance is being provided on a scale which is considered adequate and the further assurance is given that if for achieving the targets of production additional resources are found necessary, those will be provided as the Plan proceeds"[34] During the first two years of the Third Plan, progress of agricultural production was very unsatisfactory and when national emergency was declared, after the invasion of the Northern Frontier, the National Development Council in the year 1963 sanctioned supplementary allocation for minor irrigation and soil conservation

---

[32] Report on the Third Five-Year Plan, pp 23-24

[33] *Ibid*, p 7

Viewing the three Five-Year Plans together, it can be stated that the only period during which the importance of agricultural development was not sufficiently appreciated was at the time of the formulation of the Second Plan It may be perhaps more appropriate to say that during this period the importance of basic and heavy industries in national development came to be emphasised for the first time This was interpreted as 'neglect' of agriculture In this connection, it is important to mention that allocation of only 6 3 per cent of the total financial outlay during the First Plan to the development of large and medium industries in the public sector was altogether too meagre and its step-up to 14 4 per cent in the Second Plan was, in a way, a correction of the 'neglect' of industrial development in the First Plan It is interesting to note that in retrospect, even the critics of the heavy industry bias of the Second Plan agree that it would have been worthwhile to have endeavoured to establish a steel plant during the First Plan

In this connection, it is necessary to emphasise that it is inappropriate to judge the priorities accorded to different sectors only by reference to the composition of planned public outlay or investment Apart from the considerable non-monetised investment particularly in the agricultural sector, so characteristic of under-developed economies, the quantum of private investment in different sectors constitutes an important component of the total investment on which the ultimate output would depend According to the estimates given in the Third Five-Year Plan, during the First Five-Year Plan (1951-56), the private sector investment came to Rs 1,800 crores as against Rs 1,560 crores of public sector investment The corresponding figures for the Second Five-Year Plan (1956-61) are Rs 3,100 crores and Rs. 3,650 crores It may also be noted that during the Second Plan, private investment in agriculture came to Rs 625 crores as against public investment of Rs 210 crores In the case of major and medium irrigation, however, as would be expected, there was no private investment against an investment of Rs 420 crores by the public sector[35] Further, as has been rightly pointed out, "the only way of judging whether a development plan is well-balanced is by considering the flow of *output* of the various goods and services investment is simply *one* means of securing this balance, and the character of the development cannot be judged by the way in which this one means is allocated between various industries The capital expenditures are a very important means of helping to attain this output, but they are not objectives in themselves If some other method of raising output could be discovered during the Plan period (*e g.*, by the use of better seeds instead of costly irrigation schemes), then the essence of the Plan can be fulfilled even if the capital expenditure were far below the original figures"[36]

---

[34] *Ibid*, p 304

Professor Reddaway has elaborated this point thus[37] "A five-year plan normally shows two main sets of figures targets for the outputs of various commodities which should be attained in the last year of the plan, and plans for capital expenditure to be done in the whole period of the plan. Of these two, the capital expenditure is the thing which calls for direct and immediate action, and it tends therefore to be regarded as the essence of 'the Plan' This is, however, to mistake the means for the objective the fundamental *objective* of the Plan is to attain the higher levels of output, and it is these levels of future output which have to be kept in balance as between one product and another, if the plan is to be a coherent one " He further observes " it was inevitable that investment should show a bigger percentage for the industrial sector — and more particularly for heavy industry — than one will find in the increment of output amongst other reasons, we may note the following

---

[35] *Ibid*, pp 32-33 and 59

[36] W B Reddaway The Development of the Indian Economy (1962), pp 161 and 189

[37] *Ibid*, p 189.

(a) The other factors which raise output besides investment — notably 'better methods in existing productive units' — can make a substantial contribution in agriculture and in the more established types of other activities (including services), in heavy industry or power, on the other hand, output has to be expanded essentially by building new units

(b) The long time-lag between investment and output in heavy industry requires apparently 'disproportionate' investment in it when the process of development is starting or accelerating.

(c) In so far as additional output is obtained by building new units, the higher capital-output ratio in heavy industry inevitably makes its share of investment higher than its share in the resultant increase in output This is not, of course, a reason for deciding to increase the output of heavy industry rather than some other type of output — quite the reverse, but if it is *necessary* to increase the output of heavy industry (as may above all apply in the case of power) then the large allocation of investment to that purpose follows inevitably "

CHAPTER VIII

LAND TENURE AND LAND REFORMS

GENERAL CONSIDERATIONS

The ownership of land and the nature of rights and obligations between the members of the rural community arising as a consequence of the utilisation of land are the product of a long evolution determined by the geographical, economic, social and political conditions and circumstances of the community. The complex of land tenures and tenancies which arises as a result of this process affects vitally the efficiency of cultivation and the distribution of the produce of the land

Whether the State recognises private ownership in land, whom it recognises as owner and on what terms, whether the owners actually cultivate the land or whether they hire it out to tenants, on what terms these latter are called upon to work, these are the factors which determine the structural basis of the country's agricultural economy If this structural basis is unsound, attempts to secure agricultural improvement cannot succeed The State has to take into account all these vital questions and help in bringing about necessary changes in respect of tenures and tenancies so as to ensure that the land system does not hamper but promotes agricultural progress

In India, the land problem did not receive, until the post-Independence period, the attention it deserved Various economic and social factors combined to produce an inefficient and exploitative land system which sapped initiative, hampered economic progress and led to inequitable distribution The land problem has been at the root of many of the deficiencies and drawbacks of Indian agriculture A reform of the land system has, therefore, to be an integral part of the problem of agricultural improvement and rural reconstruction

EVOLUTION OF THE LAND TENURE SYSTEMS

The systems of land tenure in India may be broadly classified into three divisions (i) the Zamindari, (ii) the Mahalwari and (iii) the Ryotwari We shall outline briefly the evolution of these systems and the growth of diverse interests and classes on the land

THE PERMANENT SETTLEMENT — ZAMINDARI

As the East India Company established its political domain in one part of the country after another, it had to evolve some system of dealing with the landed interests But this was no simple task for the Company as it found itself confronted with long-established customs and usages The officials of the Company, however, had little interest in anything beyond the extortion of the maximum amount possible from the agriculturists, and naturally they took the line of least resistance by recognising the existing arrangements, or adopting new ones, where necessary, in order to make sure of their own receipts The system of land revenue then prevailing generally dated far back to the days of the Hindu Kings prior to the Moghul rule, a system under which the king was entitled to one-sixth of the gross produce as measured by the actual product gathered on the threshing floor. In the days of Sher Shah and Akbar, certain reforms had been introduced, such as a cadastral survey, and the payment of revenue in cash or in kind at the option of the cultivator, the amount being determined in view of a variety of factors including the fertility of the soil In the latter days of the Moghul Empire, the collective assessments superseded the methods favoured by Sher Shah and Akbar.[1] Settlements were made with the provincial chief or any person in authority for a fixed annual revenue and the imperial share was raised to half the produce of the land. This led to the oppression of the peasantry by the revenue farmers who extorted from the cultivators as much as they could, and there were cases of women and children being sold as slaves for defaults in payment of revenues. The East India Company also farmed out the revenues to older zamindars and chiefs in Bengal, Bihar and Orissa. Warren Hastings tried temporary or short-term settlements, but the system had disastrous results Ultimately came Lord Cornwallis's Permanent Settlement in Bengal, based on the analogy of English conditions, but involving in fact an unwarranted revolutionary interpretation of ownership rights, the consequences of which were felt till recently The zamindars who were originally agents of Government and, therefore, under the supervision of Government were declared full proprietors of the areas over which their revenue collection extended. The assessment was fixed at about 10/11ths of what the zamindar received as rent from ryots, the balance of one-eleventh constituting the zamindar's remuneration The revenue liability was fixed in a rough-and-ready manner without any survey of landed rights and interests or any investigation into the productive capacity of the different classes of soils The intention of protecting the tenants as well was never made effective The landlords became a functionless and parasitic class interested only in getting the maximum of rent from the peasants, and Cornwallis's dream of creating in Bengal a beneficent landlord-capitalist system resting on the contentment of the cultivator failed to materialise It took three-quarters of a century for the iniquity of the position to become apparent It was only after 1859 that attempts were made to grant protection to the cultivator by means of tenancy legislation

---

[1] Radhakamal Mukerjee Land Problems of India (1933), p 324 It is interesting to compare in this connection the description of this system as given by Mr M Azizul Huque in his work, The Man Behind the Plough (1939), Chapter XIV

In Other Parts of India

In the meanwhile, steps were taken to extend the Permanent Settlement to other parts of the country as the Directors of the Company were favourably impressed by the regularity with which revenues poured in from Bengal under that Settlement. The system was applied to Benares, to North Madras and certain parts of South Madras, but difficulties were encountered as soon as it was sought to be introduced in the rest of South Madras In the major portion of the Presidency, the villages were of the ryotwari type, and the officials of the Company, under instructions from the Court of Directors, tried to group together these villages artificially and to sell the landed rights therein to the highest bidders who were then to become the landlords of the whole estate The attempt failed miserably and had to be given up in favour of the ryotwari system The question of extending Permanent Settlement came up for discussion even learnt by experience and turned down firmly all proposals for a further extension of the system

It is perhaps pertinent to observe here before leaving this topic, that two issues have often been mixed up in the controversies on the subject One refers to the period of the Settlement, that is, whether the share of the State is to be settled in perpetuity or only for a definite period, the other is as to who should be recognised as the owner of the land and who should therefore be dealt with by the State directly — the cultivator himself or some intermediary It has happened as a matter of historical accident that the Permanent Settlement has been associated with the zamindari system of tenure There is, however, no necessary connection between the two Permanent Settlements even with ryots individually are conceivable, and were in fact contemplated by the originators of the ryotwari system On the other hand, we may also have a system of temporary settlements with zamindars An illustration of the latter is the Malguzari system in the former C P The Malguzars were revenue farmers under the Peshwas They had no proprietary rights in the land But, the British Government recognised them as owners and heads of villages and made them responsible for the payment of land revenue, the only difference in this case as compared with that of the landlords in Bengal being that the settlements here were temporary Besides these zamindari systems in Bengal, U P, parts of Madras and of C P, there were several other zamindari types of tenure in India, such as, for example, the *Talukdari* system in parts of North Gujarat and the *Khoti* system in the Konkan The land revenue assessment and administration in these cases were governed by special Acts Although there are differences in detail in the working of these various types of tenures, the problems arising under all forms of zamindari systems are, broadly speaking, similar, and it is not proposed here to examine all these systems in detail

Abandonment of the Permanent Settlement

Doubts as to the desirability of extending the Permanent Settlement to the new territories that were being added from time to time to the Company's domain were expressed as early as 1808, the main objection being the possible loss of revenue on that account In 1821, the Court of Directors declared themselves against the introduction of Permanent Settlement in Northern India [2] Nevertheless, the controversy raised its head several times thereafter, especially in view of the serious toll of famines in different parts of the country One school of thought believed that a permanent fixation of the State's demand would be of great help to the landed interests and the peasantry, but the Government of the Punjab opposed vigorously the conclusion of a Permanent Settlement on the ground that the Punjab was still undeveloped and that it would be wrong to fix up permanently the State's share in view of its great possibilities of development in the future [3] The question became the subject-matter of several Government minutes and despatches, and finally, in 1883 the Secretary of State for India wrote to the Governor-General of India directing that the policy of Permanent Settlement should be formally abandoned [4] As Dutt points out, the policy was not abandoned because it was found to be at all against the interests of the people, but because the Government had now quite forgotten the original beneficent aims of policy as outlined by Lord Cornwallis

However, the experience of the working of the zamindari system showed none of the expected advantages, on the contrary, several defects were noticed The fixity of land revenue was a loss to the State It created vested interests The zamindars not only failed to act as leaders of the rural community, but they actually oppressed the tenants by all sorts of illegal exactions The system led to a mass of litigation and agrarian discontent and also to social degradation and administrative inefficiency The greatest evil of the system was sub-infeudation The ultimate result was a steady reduction in the number of actual cultivators possessing occupancy rights and a large increase in the number of landless labourers When this was combined with the further evil of sub-division and fragmentation the vicious circle was complete In view of these defects, hardly any one could defend the Permanent Settlement

---

[2] R C Dutt Economic History of India in the Victorian Age (1903), Seventh Edition, 1950, p 34

[3] *Ibid.*, p 276 ff

[4] *Ibid*, p 289

THE MAHALWARI SYSTEM

The principles of the Mahalwari or joint village system which was first adopted in Agra and Oudh and later extended to the Punjab were laid down in Regulation IX of 1833.[5] It was recognised in these cases that the villages concerned were units by themselves, the ownership of property was joint or communal, and that it was not possible therefore, to work out here a settlement with individual landlords as in the case of Bengal. Hence, these villages or Mahals, were settled with directly, though a co-sharer of standing was generally selected to undertake the primary liability of paying the land revenue There were variations in detail as between the different parts of the country under this system, variations in regard to the procedure and period of settlement and the land revenue assessed The State demand varied from 40 to 70 per cent of the rental. In the Agra Settlement, although the responsibility for payment of land revenue rested on the village as a whole, any section of a village or a co-sharer could demand a separate or individual revenue liability In the Punjab also, though the liability was in theory joint as well as several, the share of the revenue from each landholder was distinguishable and could be recovered separately, so that the cultivators were almost in the same position as the peasant proprietors in Bombay and Madras In the C. P , the system was practically on the same lines as the Agra Mahalwari Settlement so far as the basis of settlement was concerned There was, however, the significant difference that the State had recognised the Malguzars, that is, the old revenue farmers under the Mahratta, as heads of villages, with proprietary rights The idea once again as in the case of Bengal was to create a new class of vested interests who would be loyal to the new Government The conferment of this status was considered as a "gift" and the claim of the State was limited to one-half of the rental The settlements were to operate for 30 years The consequence of all this has been the break-up of the old village community and the growth of an unco-ordinated individualism, whatever may have been the original intention of those who advocated and introduced the Mahalwari system based on the recognition of the joint character of the village community and the common rights in lands attached to the village

---

[5] R C Dutt *Op cit*, p 34

THE RYOTWARI SYSTEM

We now go on to trace the evolution of the third type of land system in India — the Ryotwari system, under which the individual ryot is dealt with directly by the State This system was first introduced in the districts of Baramahal in Madras by Captain Read and Thomas Munroe in 1792, and was gradually extended to other parts of the province and thereafter to Bombay 'Between 1808 and 1818," says R C Dutt,[6] "the Madras Board of Revenue urged the wise plan of recognising the village communities of the Province" And he adds, "but representative village communities had no place in the scheme of the Company's absolute Government; the Directors decided to deal with the cultivators individually, without any intermediate bodies The ancient village communities of Madras declined from that date" The same story was repeated in Bombay Elphinstone, indeed, sent home reports[7] about these village communities which contained "in miniature all the materials of a State within themselves" He also drew the attention of the authorities in London to the fact that "a large portion of the ryots are the proprietors of their estates, subject to the payment of a 'fixed land tax' to Government," but, to quote Dutt again, "a fixed resolve to make direct arrangements with every separate cultivator and to impose upon him a tax to be revised at each succeeding settlement, necessarily weakened village communities and extinguished Mirasi rights" Dr Radhakamal Mukerjee has refuted Baden-Powell's contention that the ryotwari village was the original type in India, that the earliest settlers had no ideas of common tribal ownership and that individual property was the rule even in early land settlement[8] If this is true, the claim that in recognising the ryotwari system, the Government only gave statutory recognition to what was already a settled fact would be untenable

Under the ryotwari system the ryot or the landholder is recognised as holding the land directly from Government without the intervention of any intermediaries His tenure is known as "occupancy" tenure which means the lands are heritable, transferable and otherwise alienable without the sanction of Government, but are subject to forfeiture in case of failure to pay the land revenue as assessed periodically. A system like this leaves a great deal of discretion to the Settlement Officer at the time of assessment, there is necessarily a great deal of guess-work in the estimation of several of the items relevant to the fixation of the assessment, and, when this is combined with the fact that every periodical revision is utilised as an occasion for enhancement, we have some explanation of why this system of 'peasant proprietorship' has not brought in all the glorious results attributed to it by economists and land reformers. The implication of the ryotwari system is that the State owns the land, and that the landholder derives his title to it directly from the State. Apart from the other consequences of this system, to which we shall turn presently, this claim of the State has destroyed the collective basis of village life and organisation.

---

[6] R C Dutt *Op cit*, p 67

[7] *Ibid*, p 50 ff (italics in the original)

[8] Land Problems of India *Op cit* pp 325-327

Decay of the Village Community

This review of the three prevalent systems of land tenures in the pre-Independence period, *viz.*, the Zamindari, the Mahalwari and the Ryotwari tenures indicates clearly that the early British administrators approached the problem of land settlement and assessment only pragmatically. Their inclination was to take as far as possible the line of least resistance so long as the payment of the dues fixed was assured. The fact nevertheless is that the early land policy of the Company and even of the officers under the Crown brought about far-reaching changes in the basis of land ownership, the system of cultivation, and the legal and social relationships as between the different classes of the rural community. The traditional village economy disintegrated, parasitic interests developed on the land, and a series of measures had to be taken in the course of the 19th century to rectify the obvious evils.

In the evolution of the Indian land tenure system, there was thus an inter-relationship between the mode of settlement of land revenue and the recognition of rights in ownership and cultivation. Before the history of land revenue assessment is taken up for study in another chapter, it is necessary to know here the effects of the system of land tenure on the various interests in the cultivation of land and measures of reform introduced by Government

TENANCY PROBLEM

The land tenure system refers to the relationship between Government and the landowner If the landowner himself cultivates the land, there is no further problem, except that of the relationship between the landowners and the agricultural labourers The problem of tenancy arises when the landowner or zamindar lets out the land to someone else, who then becomes the tenant, on terms defined by contract or custom The distinction between such a tenant and a mere agricultural labourer, though sometimes blurred in practice, is quite clear-cut conceptually The latter receives a fixed wage and works under the supervision and control of the employer He has no right to the land and is not directly concerned with the product He merely does his allotted job in return for the wages, and there his responsibility ends A tenant works on his own He agrees to pay to the landowner a certain cash rent or, more often, a specified share of the produce He utilises his own labour, also that of the members of his family, and may, in busy seasons or otherwise as need arises, employ hired labour to assist him The landowner may supply, besides the land, some capital and equipment, often he supplies only land and takes no interest in actual agricultural operations A tenant is thus not only his own manager, but also in part "entrepreneur," his reward fluctuates according to the crops he obtains and the prices they fetch It is a remarkable fact that in India, in the zamindari as well as in many cases in the ryotwari areas, the owner did not cultivate the land himself, so that the problem of tenancy became acute all over the country

The emergence of this problem is due to a variety of causes In the permanently settled parts of the country, the inevitable result of conferring proprietary rights on the old revenue farmers was the creation of absentee landlords and the degradation of the original holders to a position of semi-serfdom In the U.P, for instance, the creation of *Talukdars* in Oudh after the Mutiny was dictated by political necessity irrespective of the rights of the mass of the peasantry Nowhere in the whole land history of India, "can a better example be found of how the fate of millions of people is bound up with the political upheavals in the country." "The Government, entirely for political considerations, subordinated and sacrificed the interests of the millions to the interests of the few"[9] In the Ceded as well as the Conquered Districts of Agra, early settlements were made with so-called zamindars without any proper survey or enquiry. The new zamindars who were recognised by the British had little respect for traditional customs and rights Their chief aim was to realise as much revenue as possible lest their newly-got zamindari should be put to auction and sold off to others[10] Therefore, attempts were made to correct the initial mistake by legislation and a more systematic recording of rights, but, broadly speaking, the results have been similar to those in Bengal — a multiplicity of proprietary and sub-proprietary tenures, tenancy of various grades and a host of rent-receivers and rent-payers between the zamindar and the actual cultivator This sub-infeudation resulted in the neglect by all these classes of their true economic functions since all the new interests in agriculture, instead of trying in co-operation to raise the maximum produce from the land, sought to wrest the utmost from one another The tenant in this situation was unreservedly at the mercy of the landlord and the relationship between the two came to be characterised by various exactions in kind and cash, "fines", rack-renting and eviction of the tenant without any just reason In fact, in all zamindari areas, whether settled permanently or temporarily, the development was along similar lines, so that a series of tenancy laws had to be passed to afford some protection to the ryots

TENANCY LEGISLATION

In instituting the system of Permanent Settlement in Bengal, it was made clear that the recognition of revenue farmers as landlords for the purpose of collection of land revenue did not give them a 'blank charter' to exploit and oppress the cultivators The Court of Directors expressly reserved the right to make from time to time all such regulations as may be necessary to prevent the ryots being improperly disturbed in their possession or loaded with unwarrantable exactions[11] Though this declaration was reaffirmed in 1819, the actual rights of the cultivators were left unascertained at the time of the Permanent Settlement and were in fact allowed to be usurped by the zamindars[12] By the notorious "*Haptam*" Regulation of 1799, the zamindars were vested with wide and arbitrary powers of distraint The Regulation V of 1812, known as the "*Panjam*" only reduced the powers What the zamindar thus lost, he made up by the exercise of illegal power One regulation followed another to help the landlords till one finds the breath-taking regulation that ryots preferring litigation or groundless complaints against the zamindars were to be punished with fine and imprisonment[13] At this time, a long and utterly unrealistic, if not tragic, controversy was raging among British administrators and jurists, as to whether the Permanent Settlement conferred on the zamindars absolute proprietary rights or whether the Government could still claim the right to regulate the exactions of the zamindars from the cultivators In 1819, the Court of Directors admitted regretfully "the absolute subjection of the cultivator of the soil to the discretion of the zamindars"[14] But nothing was done in the matter upto 1859, so that "feudalism on the one hand, serfdom on the other, were the principal characteristics of the land system of Bengal"[15] The ryots were rack-rented, impoverished and oppressed, but large areas of Bengal, and waste lands were brought under cultivation and the zamindar's margin of profit increased[16] Legislative interference became unavoidable The Bengal Rent Act of 1859, divided the settled cultivators of Bengal into three classes For those who held lands at the same rents since 1793, it was enacted that the rental should remain unaltered for all time to come For those who held lands at the same rents for 20 years, it was to be presumed that they had paid the same rents since 1793 until the contrary was proved; and those cultivators who had held lands for 12 years, were granted occupancy rights, their rents not to be raised thereafter except on specific and reasonable grounds provided in the law Certain other powers exercised by the landlord, such as that of having any ryot of his arrested without proving a case against him, were also cancelled[17]

---

[9] B R Misra Land Revenue Policy in the U P (1942), pp 196-197

[10] *Ibid*, p. 56

[11] Quoted by M Azizul Huque, *Op cit*, p 226

---

[12] Land Problems of India, *Op cit*, p 149

[13] Quoted by M Azizul Huque, *Op cit*, p 249

[14] *Ibid*, p 252

[15] Speech by the Lt Governor of Bengal in 1859, quoted by M Azizul Huque, *Op cit*, pp 252-253

[16] Report of the Land Revenue Commission, Bengal, Vol I (1940), pp 24-25

As the Rent Commission of 1880 clearly revealed, this legislation proved ineffective The zamindars did their best to prevent a cultivator from becoming entitled to the occupancy tenancy through 12 years' uninterrupted cultivation Various devices were employed for not only enhancing the rents but also for ejecting the old tenants Such treatment was followed by acute agrarian discontent and even riots In 1885, another Tenancy Act was, therefore passed. The two main objects of the Act were to extend the right of occupation to settled cultivators, and to extend adequate protection to non-occupancy cultivators[18] But even this was of no avail Rents went on increasing, on the doctrine of average rate on grounds of higher prices, to the maximum from 1885 to 1928, years of progressive increase of prices throughout India The law again intervened in 1928 and made occupancy holdings transferable, subject to certain conditions It also provided that the landlord had the right of pre-emption to purchase the holding within two months of the sale at 10 per cent over the sale price The right of pre-emption, which should have been vested with the occupancy ryot, was given to the landlord, even though more than half a century had elapsed since the first Tenancy Act was passed

Thus although tenancy legislation was undertaken, the old policy of allowing "every point about which there could be any doubt to settle itself in favour of the landlord and against the public" continued[19] The other provinces such as the U P, the Punjab, Bihar, Orissa, Bombay and Madras also passed legislation in the course of this period more or less on the model of the Bengal Tenancy Acts, dealing with the zamindars, *talukdars* and *khots* But the results were everywhere the same, and the law was too tender to the landlord to uproot the evils of tenure from the land system As the Floud Commission summed up the position "It is true that the successive provisions of the Tenancy Acts have endowed the raiyats with the practical ownership of the land But a large and increasing proportion of the actual cultivators have no part of the elements of ownership, no protection against excessive rents and no security of tenure "[20]

---

[17] R C Dutt, *Op cit*, pp 263-264

[18] *Ibid*, p 461

[19] Report, 1871-72, quoted by M Azizul Huque, *Op cit*

In spite of all the legislation since 1859, the defects of tenancy continued as the law found it difficult to limit the landlord's rights and powers which had been propped up for a long time by statute as well as by judicial interpretation Several factors were at work which made the problem more complex and more acute sooner than the law could cope with These factors were the rapid growth of population with increasing pressure on the land, the growth of a money economy, which led to extensive alienation of land from the agriculturists to non-agricultural classes, the de-industrialisation of the country-side, which was a characteristic feature during the period of the economic transition in India, and the prestige attaching to the ownership of land, combined with the notion that actual work on the land was degrading, which led the well-to-do classes to invest in land and become absentee landlords In this process the erstwhile owner after selling off his land to a moneylender often went on bended knees to him asking to be allowed to cultivate his old plot of land on terms which were necessarily unfavourable to him[21] The divorce of ownership from cultivation coupled with the excessive pressure on land resulted in a rapid rise in the number of functionless intermediaries who saw in the growing helplessness of the tenant a way to strengthen their own position without making any contribution to the maintenance or improvement of the productivity of the land Consequently, a complicated chain of proprietary and sub-proprietary rights in land was built up There was an increase of 62 per cent in the number of rent farmers between 1921 and 1931, and since 1931 there has been a further process of sub-infeudation below the statutory ryot At the same time, a steady reduction took place in the number of actual cultivators possessing occupancy rights and there was a large increase in the number of landless labourers Their number increased by 49 per cent between

---

[20] Report of the Land Revenue Commission, Bengal, Vol I (1940), p 39

[21] *Vide* Report of the Royal Commission on Agriculture in India (1928), p 433

1921 and 1931 They constituted 29 per cent of the total agricultural population [22]

The same problem of intermediaries arose even under the Mahalwari and Ryotwari systems, where ordinarily the land holder was expected to be the cultivator Thus, in the Punjab, 7 3 per cent of the cultivated land was farmed by occupancy tenants and about 48 2 per cent by tenants-at-will. The general consensus of opinion as recorded by the Punjab Land Revenue Committee was that "the ordinary tenant with one or two ploughs does not often earn more, and may in places earn less than the permanently hired agricultural labourer "[23] The unequal distribution of the ownership of land implies the divorce of ownership from cultivation and indicates correspondingly the magnitude of the tenancy problem In Bombay, apart from the *talukdari* and *khoti* tenures which were of the nature of zamindari tenures, one-third of the cultivated area belonged to landlords who received rents without directly or indirectly taking part in the cultivation [24]

On the whole, taking the zamindari as well as the ryotwari areas, about 75 per cent of the cultivated area was estimated to be cultivated by tenants with varying degrees of rights and liabilities The rents paid by these tenants were in most cases exorbitant. The tenants were required often to render a variety of personal services of a semi-feudal type to the landowner The practice of crop-sharing prevailed over a large part of the country Though this system had its advantages in early days, the subsequent developments hardly left even a subsistence level of income to the tenants on this basis

PRE-INDEPENDENCE LEGISLATION AND CONGRESS AGRARIAN REFORMS COMMITTEE[25]

During the pre-Independence era, some piecemeal attempts were made for eliminating some of the worst features of the existing land tenure relations. After the 1936 elections to the Provincial Assemblies, popular governments were formed in most of the Provinces This synchronised with mass upheavals of the peasants in some of the zamindari areas The popular governments responded by introducing legislation for the protection of tenants The Government of Bombay enacted a law creating a class of protected tenants who could not be evicted except for non-payment of rent and some such specific reasons. Rents were also reduced In Bihar, all rent enhancements between 1911-13 were cancelled and illegal evictions by the zamindars were made a penal offence In Uttar Pradesh, a moratorium was declared on all arrears of rent and debts, and ejectments of tenants were prohibited When the U P Tenancy Act of 1939 came into force, permanent and heritable occupancy rights were given to 7 million tenants over an area of 163 million acres

---

[22] Report of the Land Revenue Commission, Bengal, Vol I, p 37

[23] The Report of the Land Revenue Committee, Punjab, Government of Punjab (1938), p 34 It is also pointed out that about 61 per cent of the cultivated area of the Province belonged to only 15 per cent of the owners

[24] Land Revenue Administration Report, Bombay, 1936-37

[25] *Vide* M L Dantwala's Paper on "Interrelationship between Land Reform and Community Development," submitted to ECAFE in March, 1961

The first comprehensive statement on land policy is contained in the Report of the Agrarian Reforms Committee appointed by the President of the Indian National Congress, in 1948[26] The Committee stated that there could not be any lasting improvement in agricultural production and efficiency without comprehensive reforms in the country's land system While fully supporting the proposals for the abolition of the zamindari tenure, which were before the legislatures of several Provinces, the Committee categorically stated that in the agrarian economy of India, there was no place for intermediaries and land must belong to the tiller It, therefore, recommended that in future sub-letting of land should be prohibited except in the case of widows, minors and other disabled persons Resumption of land by the landless from the tenants was to be permitted only to the extent necessary to make owner-cultivation economic More land could be resumed subject to the condition that in the process, the holding of the tenant did not become uneconomic The tenant was to be given the right to purchase the non-resumable portion of the land at a reasonable price to be determined by Regional Land Tribunal In order to avoid the occurrence of concealed tenancy, it was suggested that any arrangement under which the person working on the land shared the risk of cultivation, as would be the case in crop-sharing, would be deemed to be a tenancy Only those who put in a minimum amount of physical labour and participated in actual agricultural operations would be considered as cultivating the land personally

---

[26] Report of the Congress Agrarian Reforms Committee, The All-India Congress Committee (1949)

Two other important recommendations of the Congress Agrarian Reforms Committee may also be noted The Committee recommended that there should be a ceiling on the size of holdings which any one farmer should own and cultivate Co-operative farming was recommended for palpably uneconomic units of land Individual peasant farming was recommended subject to limitations of a ceiling and a floor and social control in the matter of sub-letting, transfers and a test of good husbandry

FIRST FIVE-YEAR PLAN

The First Five-Year Plan of the Government of India, in its statement on Land Policy, endorsed the recommendation of the Congress Agrarian Reforms Committee While emphasising that increase in agricultural production represented the highest priority in planning over the next five years, it was stated that the social aspect of the problem was no less important It was mentioned that the policy for land may be considered adequate in the measure in which it reduces disparities in wealth and income eliminates exploitation, provides security for tenant and worker and finally, promises equity of status and opportunity to different sections of the rural population[27]

The land reform programme in India can be best considered under the following major headings (i) Abolition of Intermediary or Zamindari rights, (ii) Tenancy legislation aimed at reduction of rent, security of tenure and purchase of land by tenants, (iii) Ceiling on individual holdings, and (iv) Co-operative farming

The above also represents the chronological order in which these measures were introduced To these may be added the legislation for consolidation of holdings and prevention of fragmentation which was being adopted with varying degrees of intensity all through this period and even before Independence

Before discussing the salient features of these different measures of land reforms, it is necessary to note that land reforms fall within the jurisdiction of the State Governments, and the Union Government, at best, provides general guidance Because of this, and also the great variations in local conditions, the legislation while broadly conforming to the general policy varies in details It would not be possible here to discuss the content of land reform legislation in all its variations in the different States What follows therefore is a broad description of the essential features of the various land reform measures.[28]

---

[27] Report on the First Five-Year Plan, Planning Commission, Government of India (1952), Chapter XII — Land Policy, p 184

ZAMINDARI ABOLITION

The Zamindari or the Intermediary tenures existed predominantly in the States of Uttar Pradesh, Bihar, West Bengal and former Hyderabad and parts of Madras and Andhra The legislation enabled the State Governments to acquire all rights of the intermediaries on payment of compensation. The acquisition included, besides the tenant-cultivated land, all waste lands, communal lands, forests, mines, minerals, rivers, channels and fisheries In all about 173 million acres of land were acquired for which the compensation including rehabilitation grants payable to the intermediaries amounts to Rs 513 6 crores.[29] Acquisition of these rights by the State brought the statutory tenant (but not necessarily the sub-tenants) into direct relationship with the State In some cases, tenants acquired full ownership rights including the right of transfer, without any payment In others, they were required to make some payment to the State for acquisition of full occupancy rights Until these rights are acquired, in effect, they remain the tenants of the State Government and continue to pay the same amount in the form of land revenue as they used to pay as rent to the zamindars The land revenue is reduced only on the payment of purchase price to the Government In the zamindari areas, rents paid by the statutory tenant to the intermediaries had been regulated for the past many decades by legislation[30] As such, these were regarded as reasonable and further deductions were not generally considered necessary.

---

[28] For details see Agricultural Legislation in India, Vol IV—Land Reforms (Abolition of Intermediaries) (1953), and Vol VI—Land Reforms (Reforms in Tenancy) (1955), Ministry of Food and Agriculture, Government of India

[29] Progress of Land Reform, Planning Commission, Government of India (1963), p 4

[30] The Bengal Tenancy Act of 1885 and Bihar Tenancy Act of 1885.

As will be seen, the average rate of compensation paid to the intermediaries comes to about Rs 30 per acre This is substantially below the market price of the land Thus, though the average quantum of compensation cannot be considered as excessive, a handful of zamindars who owned very large areas of land became entitled to substantial amounts of compensation Only a part of the compensation—or rehabilitation grant—and that too to small landowners, is paid in cash, the remaining being paid in long-term bonds As yet, only a small part of compensation has been paid to the divested zamindars The assessment and payment of compensation has been a time-consuming process primarily because of the absence of proper record of rights and inadequate revenue administration

Land under personal cultivation of the zamindars (or nominally recorded as such) was exempted from acquisition, sometimes without any limit of retention It is alleged that this has enabled several big zamindars to retain considerable portions of land, defeating, to some extent, the main purpose of the legislation It is reported that mechanised, capitalistic farming is being undertaken on these lands by the ex-intermediaries. The zamindars did not yield readily to the onslaught of the legislation, but they preferred to fight their battle only through the Court of Law They won several rounds, one legislation after another was declared unconstitutional on the ground that it violated the Fundamental Rights guaranteed under the Constitution Section 31 of the Constitution of India provides that "no property, moveable or immoveable, shall be taken possession of or acquired for public purposes under any law authorising the taking of such possession or acquisition, unless the law provides for compensation for the property and either fixes the amount of compensation or satisfies the principles on which and the manner in which the compensation is to be determined and given" The Supreme Court, interpreting the Article, stated that "while it is true that the legislature is given discretionary power of laying down the principles which should determine the amount to be given to the owner for the property appropriated, such principles must ensure that what is determined as payable must be compensation, *i e*, just equivalent to what the owner has been deprived of Within the limits of this basic requirement of full indemnity of the expropriated owner, the legislature has to judge as to what principles should guide the determination of the amount payable" Adherence to this "basic requirement" of payment of "full indemnity" would have meant a virtual moratorium on the acquisition of the zamindari rights by the State Confronted with this situation, the Parliament amended the Constitution in 1951 A new Article (Article 31-A) was inserted which lays down that "no law providing for the acquisition by the State of any property or any rights therein or for extinction or modification of any such rights shall be deemed to be void on the ground that it was inconsistent with any of the Fundamental Rights conferred by Part III of the Constitution" A new Article 31-B specifically safeguarded the position of the Acts and Regulations specified in the Ninth Schedule of the Constitution The Schedule included all the Acts which had been enacted until then The validity of this constitutional amendment was also challenged in the Supreme Court The Court, however, held the amendment as valid and constitutional

TENANCY LEGISLATION

The main provisions of the tenancy legislation relate to regulation of rent, security of tenure and conferment of ownership on tenants The Second Five-Year Plan had recommended that the level of rent should not exceed one-fourth or one-fifth of the gross produce. Legislative measures have been adopted in all States for the regulation of rent, but the levels prescribed vary a great deal from State to State In some States, rent is fixed as a multiple of land revenue, but since the levels of land revenue themselves need rationalisation, any such correlation may not be fair and equitable There is also a trend in favour of computation of crop rents into cash rents

In order to provide security to the tenants, the tenancy laws have imposed restrictions on the landlord's right to resume land from the tenants This is related in the first instance to the amount of land already under the personal cultivation of the landlord. A greater latitude is shown to small landowners who may have leased a portion of their land to the tenants. They are permitted to make their own cultivated holding economic But, even here, care is to be taken to see that in the process, the tenant is not deprived of the entire land cultivated by him on lease Once the land is declared as non-resumable under the above provisions, the tenants of such lands cannot be evicted and they virtually acquire the occupany right One of the essential conditions of resumption is that the resumed land will be cultivated *personally* Immense difficulties have been experienced in defining personal cultivation and the looseness in the definition resulted in many improper resumptions When the legal provisions were strict, some landlords persuaded their tenants to voluntarily surrender the leased land Subsequently, the definition of personal cultivation has been revised and provisions regarding the voluntary surrenders tightened up[31] Sub-letting of land in future is prohibited under many Acts, exceptions being made in the case of army personnel, widows, orphans and disabled persons

Tenants are entitled to purchase the non-resumable leased land at a reasonable price which is either stipulated in the legislation, or is determined by a land tribunal The Bombay Tenancy Law (1957 amendment) however, goes one step further and declares that as from 1st April 1957, all tenants in cultivating possession of the leased lands are deemed to have purchased the land at a price mentioned in terms of a multiple of land revenue varying from 20 to 200 The landlords, however, are given the right to file applications under which they could contest the tenant's right to be deemed as an owner

---

[31] Definition of personal cultivation in the Bombay Tenancy and Agricultural Lands Act, 1948

(6) "to cultivate personally" means to cultivate land on one's own account, (i) by one's own labour, or (ii) by the labour of any member of one's family or (iii) under the personal supervision of oneself or any member of one's family by hired labour or by servants on wages payable in cash or kind but not in crop share, being land, the entire area of which (a) is situated within the limits of a single village, or (b) is so situated that no piece of land is separated from another by a distance of more than five miles, or (c) forms one compact block

Provided that the restrictions contained in clauses (a), (b) and (c) shall not apply to any land (i) which does not exceed twice the ceiling area, (ii) upto twice the ceiling area, if such land exceeds twice the ceiling area

A tenant is defined as a person cultivating any land belonging to another person if such land is not cultivated personally by the owner and if such person is not (a) a member of the owner's family, or (b) a servant on wages payable in cash or kind but not in crop share, or a hired labourer cultivating the land under the personal supervision of the owner or any member of the owner's family

The Bombay Tenancy and Agricultural Lands Act (Bombay Act No LXVII of 1948), Government of Bombay (1958)

As will be seen from the above, the legislation aims at making leasing of land unattractive, and ultimately terminate the system altogether The landlords did take advantage of the loopholes in the legislation wherever they existed and also tried to circumvent the provisions by all manner of dubious ways Enquiries into the working of the tenancy legislation have revealed that the implementation of the law has been far from satisfactory[32] Rents higher than the legally prescribed minimum continue to be paid, there were also several cases of unlawful evictions, sometimes with the acquiescence of the tenant himself through the so-called voluntary surrenders With the afflux of time, however, the conditions are getting stabilised, though not always in complete conformity with what was intended by the legislation, still at a level which is certainly an improvement over the state of affairs existing before the enactment of the legislation

CEILING ON HOLDINGS

At the outset, it is necessary to note that apart from the ceiling on the amount of land which a landlord could resume from the tenant, there are two other types of contemplated ceilings on individual ownership One pertains to the acquisition of land in the future and the other, to the existing holdings. Legislation in regard to the former has been passed in all the States and Union Territories Legislation for ceiling on existing holdings has been enacted in all the States and the Union Territories except the former Punjab In the former Punjab area, the law empowers the Government to settle ejected tenants on surplus lands in the possession of a person above the permissible limit of 30 standard acres.

The level at which the ceiling was to be imposed and the criteria for its determination presented a difficult issue Various criteria such as gross and net income, a work unit and a plough unit were suggested Some of the earlier Acts lay down that the ceiling should be placed at three to four times the family holding, the family holding being defined as a unit which yielded an annual net income of Rs 1 200 Subsequently, the reference to the income or to the multiple of the family holding is omitted and the ceiling levels are fixed, keeping in view the variations in the quality of land The surplus over these ceilings is acquired, for which compensation is paid at rates considerably below the market price

---

[32] *Vide* (i) V M Dandekar and G J Khudanpur Working of Bombay Tenancy Act, 1948 — Report of Investigation (1957), (ii) M B Desai Report on an Enquiry into the Working of the Bombay Tenancy and Agricultural Lands Act, 1948 (as amended upto 1953) in Gujarat (excluding Baroda District) (1958), (iii) V Y Kolhatkar and S B Mahabal An Enquiry into the Effects of the Working of the Tenancy Legislation in the Baroda District of Bombay State (1958)

Compensation has two aspects, namely, (i) compensation that may be paid to the landowners for the acquisition of surplus land, and (ii) the price that may be recovered from the allottees of surplus land As regards compensation payable to the owners, the suggestion in the Second Five-Year Plan is that it may be determined either as a specified amount related to the different classes of land or in terms of a multiple of land revenue or in such other manner as may be considered feasible It has been further suggested that the compensation may be paid in bonds redeemable over a period of, say, 20 years With regard to the price to be recovered from the allottees, the suggestion is that it should be so fixed that the total annual burden falling on the allottee on account of instalments of compensation and interest payable thereon, if any, and the land revenue should not exceed the fair rent recommended in the Plan, *i e*, one-fourth or one-fifth of the gross produce It is envisaged that the aggregate amount of compensation payable to the owners would be recovered from the allottees and that there would be no net additional liability on State Governments

Certain categories of farms are to be exempted from the operation of the ceiling Three main factors are taken into account in deciding upon the exemptions from the purview of the ceiling, *viz*, (i) integrated nature of operations, especially where industrial and agricultural work is undertaken as a composite enterprise, (ii) specialised character of operations, and (iii) the need to ensure that the efficiently managed farms which fulfil certain conditions are not broken up In the light of these considerations, the Second Five-Year Plan recommended exemptions to the following categories of farms from the operation of ceilings: (i) Tea, coffee and rubber plantations, (ii) Orchards where they constitute reasonable compact areas, (iii) Specialised farms engaged in cattle grazing, dairying, etc , (iv) Sugarcane farms, operated by sugar factories, and (v) Efficiently managed farms which consist of compact blocks, on which heavy investment or permanent structural improvements have been made and therefore if broken up is likely to lead to a fall in production

While most of the States have conformed to these recommendations, legislation in Jammu & Kashmir, Kerala, Madras, Maharashtra, Uttar Pradesh and West Bengal does not provide exemption for efficiently managed farms In Uttar Pradesh, in case of mechanised farms, a provision has been made enabling the Government to manage the surplus lands as State farms, the existing owners being given preference in the appointment of managers As regards sugarcane farms operated by sugar factories, while legislation in several States exempts them from the operation of ceiling, a different approach has been adopted in Madras, Uttar Pradesh and Maharashtra In Madras, legislation provides for the setting up of a Sugar Factory Board to review whether sugarcane farms of individual factories should or should not be exempted from ceilings Considerations such as the requirements of the sugar factory and its financial structure have to be taken into account before final decisions are taken In Uttar Pradesh, while there is no exemption from ceilings, provisions relating to mechanised farms would also apply to sugarcane farms operated by sugar factories In Maharashtra sugarcane farms of sugar factories are not exempted from ceilings but provision is made for maintaining the integrity of the farms in one or more compact blocks, for full and continued supply of raw material to sugar factories at a fair price, and for grant of surplus land to joint farming societies consisting, as far as possible, of persons who had previously leased their lands to the sugar factory, agricultural labourers employed on the farm, technical and other staff engaged by the factory for work on the farm, adjoining land holders who are small holders and landless workers

The surplus land acquired by the State is to be redistributed according to a schedule of priorities laid down in the Act The Maharashtra Agricultural Lands (Ceiling on Holdings) Act lays down the following list of priorities · (i) A tenant rendered landless as a result of resumption, (ii) A peasant rendered landless as a result of acquisition of land for irrigation project, (iii) A joint farming society of agricultural labourers, landless persons or small holders, and (iv) Landless persons The allottees are required to pay an occupancy price in respect of the land allotted to them

It is feared that due to considerable delay in enacting the legislation, numerous legitimate and illegitimate partitions have already taken place and the amount of surplus land that would now become available for purposes of redistribution is not likely to be substantial In any case, it will not be sufficient for the purpose of appeasing the land hunger by making land available to all or even a majority of the landless agricultural labourers

CO-OPERATIVE FARMING AND FUTURE AGRARIAN PATTERN

The Congress Agrarian Reforms Committee (1949) recommended co-operative farming for what it termed as 'the below basic holdings[33] The basic holding was defined as a holding smaller than which would be palpably uneconomic from the point of view of efficiency of agricultural operations To facilitate the practical application of the concept, one-third of the economic holding was to be considered as the basic holding Two considerations were involved in recommending this new operative concept of small holdings for the purpose of co-operative farming It was believed that farms which at present were somewhat below the economic level could be upgraded through either additions of small areas or extension of irrigation and the assistance of service co-operatives But the major consideration was purely administrative or organisational One cardinal test of the suitability of a land reform measure is its practicability The Committee felt that the task of bringing all the existing uneconomic farms in the co-operative fold would be beyond the official as well as non-official administrative and organisational capacity The recommendation of the Committee regarding the maximum size of the co-operative farm may also be noted The Committee wrote "To minimise the odium of coercion and to maximise the sense of individual freedom, we recommend that the farmers whose holdings are smaller than the basic may not be pooled into a single giant farm but may be allowed voluntarily to join any co-operative joint farm upto the size of the maximum holding which we have put at three times of the economic holding The idea is that the management of such a co-operative should be within the capacity of the farmers and they may not be reduced to mere automatons in the whole framework" Two points may be noted the Agrarian Reforms Committee desired that (i) co-operative farming should be confined to the sector of palpably uneconomic farms, and (ii) a limit should be placed on the maximum size of the co-operative farms

---

[33] Report, *Op cit*, p 49

Regarding co-operative farming, the recommendation of the First Five-Year Plan was that "for reasons mentioned above, it is important that small and medium farmers in particular should be encouraged and assisted to group themselves voluntarily into co-operative farming societies The area under a co-operative farming society should not be less than the prescribed minimum It is perhaps not necessary to prescribe maximum for a co-operative farming society"

The approach of the Second Five-Year Plan on co-operative farming was equally cautious and it recommended that the general aim should be to bring the below basic holdings increasingly in the co-operative pools[34] It also suggested that such essential steps should be taken as will provide sound foundations for the development of co-operative farming so that over a period of 10 years or so, a substantial portion of agricultural lands is cultivated on co-operative lines The aim was stated to be to "enlarge the co-operative sector until the management of the entire land in the village becomes the co-operative responsibility of the community." It was further stated that "once the stage of co-operative village management is reached, , the distinction between those who have lands and those who are landless will lose much of its significance"

In January 1959, the Indian National Congress, at its 64th session in Nagpur, passed a Resolution on the agrarian organisational pattern *Inter alia*, the Resolution stated that "the future agrarian pattern should be that of co-operative joint farming in which the land will be pooled for joint cultivation" In the Resolution, there was no qualification regarding restricting the co-operative pattern to the small holders A presumption, therefore, arose that the intention of the Government was to convert the entire agricultural economy into co-operative farming In June 1959, the Government of India appointed a Working Group on Co-operative Farming mainly for the purpose of examining the organisational and managerial problems likely to be faced by the joint farming societies The Working Group therefore was not called upon to express its views on the policy of the development of co-operative farming But it noted that its visits to various farming societies confirmed its belief that co-operative farming was an effective method and agency for improving the economic and social conditions, *particularly for small and middle cultivators*[35] As for the size of the co-operative farm, the Group expressed the view that it was not necessary to lay down a rigid minimum size But as regards the maximum size, its view was that compact and homogeneous units were likely to prove more successful because the chances of friction and misunderstanding were reduced considerably It, therefore, recommended that "the size of the farm should not be too large and it was not essential that the co-operative farm should cover the entire village On the other hand, there would be an advantage in having more than one co-operative farming society in the same village of average size" The programme of development it recommended for the Third Five-Year Plan was quite modest It was recommended that 320 carefully planned pilot projects should be carried out in the next four years in the NES Blocks In each Block, 10 societies may be organised At the same time, it hoped that as a result of the working of the pilot projects the programme of education and training and widening of co-operative effort in general, the idea of co-operative farming would gain ground and that 20,000 new societies would come into existence by the end of the Third Five-Year Plan The recommendations of the Working Group were generally approved by the National Development Council in September, 1960

---

[34] Report on the Second Five-Year Plan (1956), p 204

REVIEW OF PROGRESS[36]

A brief review of the progress made in the implementation of the proposals for land reform is set out below

---

[35] Report of the Working Group on Co-operative Farming, Vol I Governtment of India (1958)

[36] *Vide* Progress of Land Reform, *Op cit*, pp 1-29

ABOLITION OF INTERMEDIARIES

Intermediary tenures like zamindaris, *jagirs, inams,* etc., which covered more than 40 per cent of the area of the country, have almost been entirely abolished Legislation has been enacted in all States and the Union Territories but for a few minor tenures and *inams* as in Assam, Gujarat, Madras and Maharashtra In most States the legislation has also been implemented In others, it is in the process of implementation On abolition of intermediaries, the vestiges of feudalism have been removed and a large body of tenants estimated at 20 millions have been brought into direct relationship with the State As a result, the social and economic position of the tenants has considerably improved

With the abolition of intermediaries, considerable area of forests and cultivable waste lands has also vested in Government in most States The forest lands vesting in the Governments have generally been placed under the management of the State Forest Departments The extent of cultivable waste land vesting in the State Governments of Andhra Pradesh, Bihar, Madras, Mysore, Orissa, Punjab and Rajasthan is estimated at 15 5 million acres, out of 34 6 million acres of culturable waste land In Andhra Pradesh, Mysore and Orissa, the bulk of the culturable waste lands have vested in Government In fact in the latter two States and in Rajasthan where the *jagir* and zamindari abolition is in the process of implementation, the position may improve further on the completion of the process In several cases, the management of cultivable waste lands has been vested in the village panchayats as in the Punjab and in other cases they are being managed directly by Government

Compensation

The total compensation payable to the divested intermediaries amounted to Rs 513 62 crores—Rs 421 21 crores as regular compensation and Rs 92 41 crores as rehabilitation grants Of the total amount of compensation payable, Uttar Pradesh accounted for Rs 163 crores, Bihar for Rs 158 crores, West Bengal for Rs 70 crores and Rajasthan for Rs 54 crores, these four States accounting for about 85 per cent of the total Compensation is payable in cash or bonds redeemable over periods varying from

40 years in Bihar and Uttar Pradesh, 20 years in West Bengal, Assam and Maharashtra-Gujarat to 15 years in Rajasthan. The compensation paid upto 1960-61 amounted to only Rs 224 56 crores—Rs 100 03 crores in cash and Rs 124 53 crores in bonds Uttar Pradesh alone accounted for Rs. 119 crores of the total compensation paid

In many States, the legislation provides for assessment of compensation on the basis of a graded multiple of the net total income of the intermediary Before a multiple applicable to an intermediary can be determined, it thus becomes necessary to ascertain his total income in respect of all his estates or shares in estates In several States like Bihar, West Bengal and Rajasthan, there was hardly any up-to-date record of rights on the basis of which estimates of the assets of an intermediary or estate could be framed In Madras and Andhra area there is a further difficulty arising out of the provision which relates compensation to the ryotwari demand to be determined after ryotwari settlements have been made in the ex-zamindari estates This has naturally taken time Within the above-mentioned limitations, the State Governments, it seems, are doing their best to expedite payment of compensation It is anticipated that the issue of compensation bonds will be completed by the end of the Third Plan period

In the permanently settled areas and in areas under *jagirs* cadastral surveys had either not been done or had been done many decades ago In many cases there was hardly any revenue administration at the village level and annual land records were not being maintained In most cases special staff had to be appointed for assessment and payment of compensation The task of revenue administration is becoming increasingly more onerous and important as progress is made in enactment of legislation for tenancy reform and ceiling on land holdings

TENANCY REFORM

Regulation of Rent

It was recommended in the First and Second Five-Year Plans that rent should not exceed one-fourth or one-fifth of the gross produce Legislative measures have been adopted in all States for the regulation of rent There are large variations in the rates of rents fixed in various States In Gujarat, Maharashtra and Rajasthan, maximum rent has been fixed at one-sixth of the gross produce In Assam, Mysore, Delhi, Manipur and Tripura, it varies between one-fourth and one-fifth In Kerala, the maximum rent varies between one-fourth and one-half of the gross produce. In Orissa and Bihar it is one-fourth of the gross produce In Madhya Pradesh, it varies between 2 to 4 times the land revenue according to class of land In the Punjab, it is still one-third of the gross produce In Madras, it varies between 33⅓ to 40 per cent of the gross produce In Andhra area, Jammu & Kashmir, and West Bengal (in case of share-croppers), it is as much as one-half of the gross production in some cases Rent regulation whether as a share of the produce or in cash or as a multiple of land revenue can be effective only in cases where the tenants enjoy security of tenure

Security of Tenure

Legislation providing for comprehensive tenancy reform has been enacted in Assam, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra (enacted but not enforced), Mysore, Orissa, Punjab, Rajasthan, Uttar Pradesh, West Bengal (except share-croppers) and in the Union Territories of Delhi, Himachal Pradesh, Manipur and Tripura In Andhra Pradesh, Bihar, Madras, and West Bengal (in respect of share-croppers) comprehensive legislation has yet to be enacted Pending enactment of comprehensive legislation, special legislation has been enacted to provide for temporary stay of ejectment of tenants in Andhra area, Madras and Mysore In Bihar, the present law provides that tenants (under-raiyats) who hold land on oral leases cannot be evicted except on grounds of non-payment of rent or misuse of land Tenants holding lands on written leases are not, however, protected from ejectment In West Bengal the share-croppers have also been provided security of tenure in a limited measure

In States where comprehensive legislation has been enacted or is on the anvil, the provisions for resumption follow broadly three different patterns, namely, (1) all tenants have been given full security of tenure without a right for landowners to resume land for personal cultivation, (ii) owners have been given the right to resume a limited area for personal cultivation subject, however, to the condition that a minimum area or a portion of the holding is left with the tenant, and (iii) a limit has been placed on the extent of land which a landowner may resume but the tenant is not entitled to retain a minimum area for cultivation in all cases Uttar Pradesh, West Bengal (in respect of under-raiyats) and Delhi belong to the first category Gujarat, Kerala, Madhya Pradesh, Maharashtra, Mysore, Orissa, Rajasthan, Himachal Pradesh and Manipur fall into the second category In Assam and Punjab the owner can resume land upto a prescribed limit, but the right to resume is subject to the tenant being given alternative land up to a prescribed minimum by Government Jammu & Kashmir, Manipur, Tripura and West Bengal (in respect of share-croppers) belong to the third group There are, however, considerable variations in the detailed provisions from State to State

Ownership for Tenants

It has been suggested in the Second Five-Year Plan that each State should have a programme for converting tenants of non-resumable lands into owners and putting an end to vestiges of tenant-landlord relationship. Progress made in this direction has been uneven Legislation has been enacted for bringing tenants into direct relationship with the State in Gujarat, Kerala, Madhya Pradesh, Maharashtra, Mysore, Orissa, Rajasthan, Uttar Pradesh, West Bengal and in the Union Territories of Delhi, Himachal Pradesh, Manipur and Tripura In West Bengal, the tenants and sub-tenants have been brought into direct relationship with the State and conferred full ownership rights The share-croppers have not, however, been brought into direct relationship with the State nor have they been given an optional right of purchase In the former Punjab area, the tenants of non-resumable lands have an optional right of purchase which is further subject to the condition that only such tenants of non-resumable lands can exercise the right of purchase as are in continuous possession for a minimum period of six years. In Assam, Bihar, Jammu & Kashmir and Madras, there is no provision for bringing the tenants into direct relationship with the State or for an optional right of purchase except in respect of surplus lands vesting in Government. In Andhra Pradesh a Bill is before the State legislature

CEILING ON LAND HOLDINGS

Ceiling on land holdings has two aspects, namely, (i) ceiling on future acquisition, and (ii) ceiling on existing holdings Legislation for ceilng on future acquisition has been enacted in all the States The progress made in the enactment and implementation of the legislation for ceiling on existing holdings is as follows (i) In Jammu & Kashmir, the legislation enacted in 1951 has been implemented and about 4 5 lakh acres were taken over by the State Government Of this about 2 3 lakh acres have been settled with tenants who were in possession of the surplus land The bulk of the remaining area has been allotted to displaced persons (ii) In the Punjab, legislation was enacted in 1955 and in Pepsu area in 1956 Out of 4 2 lakh acres which have been declared surplus, 1 5 lakh acres have been utilised for settling tenants and landless persons (iii) In West Bengal, about 5 24 lakh acres of agricultural land have been taken over by Government and leased out to share-croppers and landless workers on yearly basis More areas will be taken over as progress is made in the implementation of the ceiling provisions No estimate of the likely surplus is available at present The bulk of it is already in the possession of *bargadars* (iv) In Assam where legislation was enacted in 1957, rules have been framed and declarations of surplus holders obtained which are under scrutiny No surplus land has yet been taken over (v) In Uttar Pradesh, 1 4 lakh acres have been declared surplus, of which 24,000 acres have been distributed In Maharashtra, about 90,000 acres held by sugar factories have been declared surplus and 35,000 acres have been taken over by the State Government Pending formation of co-operative farming societies, this area is to be managed by the Maharashtra State Farming Corporation In Andhra Pradesh 52,000 acres of surplus land have been located so far In Gujarat, Madhya Pradesh, Bihar, Madras, Delhi, Himachal Pradesh and parts of Tripura, legislation has been enacted but further steps for implementation have to be taken. In other States, the legislation has yet to be enforced.

Level of Ceiling

There are considerable variations in the level of ceiling adopted in different States In Assam, Jammu & Kashmir, West

Bengal and Manipur, there is one uniform ceiling limit irrespective of the class of land, the level of ceiling being fixed at 50 acres, 22¾ acres and 25 acres each, respectively In a few States, the level of ceiling has been fixed in terms of ordinary acres to take account of different classes of lands, for example, at 4½ times the family holding, *i e*, 27 to 324 acres in Andhra Pradesh, 20 to 60 acres in Bihar, 20 to 80 acres (or 25 standard acres) in Orissa, 19 to 132 acres in Gujarat, 18 to 126 acres in Maharashtra and 15 to 37½ acres in Kerala The level of ceiling has been fixed at 25 standard acres in Madhya Pradesh and Tripura, at 27 standard acres in Mysore, and at 30 standard acres in Punjab, Rajasthan and Delhi The ceiling is related to rental value or land revenue assessment in Madras, Uttar Pradesh and Himachal Pradesh The area equivalents of rental value or land revenue are left to be determined by the Government

Transfers

The land reform surveys which have been made under the aegis of the Research Programmes Committee of the Planning Commission have brought out that transfers have taken place on a considerable scale with the intention of circumventing ceiling on land holding The Second Five-Year Plan emphasised that each State should give urgent attention to the effect of malafide transfers made during the past 2 or 3 years, and consider action needed to prevent such transfers in the immediate future Transfers of lands which had already taken place, should be reviewed The Standing Committee of the National Development Council also recommended at its meeting held in September, 1957 that adequate safeguards should be provided for preventing evasion

In some States, transfers made after the introduction of the Bill or the publication of the Bill will be disregarded such as in Assam, Kerala, Madras, Maharashtra, Uttar Pradesh and Tripura Transfers will be disregarded with retrospective effect in Gujarat with effect from January 15, 1959, former Punjab area from April 15, 1953; West Bengal from May 5, 1953, (A provision for taking over surplus lands of ryots and under-ryots was included by the amendment of 1955), Delhi from February 10, 1959, Himachal Pradesh from April 1, 1952, and Manipur from January 15, 1959 In other States, there is no provision for disregarding transfers made before the commencement of the ceiling law for the purpose of determining surplus land In Mysore, transfers can take place even after the enactment of legislation In Madhya Pradesh and Orissa, the provisions go further and permit owners to transfer their surplus land to specified categories of persons within specified periods

The provisions for disregarding transfers will not apply to partitions, unless there is a specific provision for regulation of partitions The partitions will not have any material effect on surplus lands in cases where ceiling applies to the aggregate lands held by a family, family being defined to include husband or wife, dependent children or grand-children, as even after partition the lands will remain within the family and will thus be taken into account in determining the surplus land of the family

Compensation for Acquisition of Surplus Lands

In all States except Jammu & Kashmir, a provision has been made for the payment of compensation for the acquisition of surplus lands The provisions in the various Acts regarding compensation for acquisition of surplus lands generally follow five different patterns (i) The compensation has been fixed as a multiple of assessment in Assam (50 times), Gujarat (12 to 200 times), Madhya Pradesh (50 to 20 times, on a graded slab basis, the slab being related to the rate of land revenue applicable to different classes of land), Maharashtra (55 to 390 times the assessment depending upon the class of land and locality), Rajasthan (30 to 20 times the rent-rate on slab basis depending upon extent of surplus land), Uttar Pradesh (in the case of *Bhumidhars,* 80 times the land revenue or 40 times the hereditary rate whichever is greater, plus 20 times the difference between hereditary rate and the land revenue; and in the case of *Sirdars,* 20 times land revenue determined at the hereditary rate plus 20 times the difference between the hereditary rate and the land revenue) and Himachal Pradesh (48 times) (ii) It has been fixed as a multiple of rent as in Pepsu where it is between 9 to 12 times the fair rent payable for the land on a sliding scale for the first 50 standard acres of surplus land (iii) It has been fixed as a multiple of income in the Andhra Pradesh, 5 to 3 times the gross income on a sliding scale depending on extent of land. In Mysore it is 10 times the net income, in

Madras 12 to 9 times the net income on a graded slab basis, in West Bengal, 20 to 2 times the net income and in Delhi, Manipur and Tripura, 20 times the net income (iv) It is related to the market value in Kerala (varying between 25 to 60 per cent of the market value) and Orissa (full market value) (v) It has been provided at specified amounts for different classes of lands as in Bihar (the amounts varying between Rs 50 and Rs 900 per acre)

With regard to payment of purchase price by allottees, the amounts payable by them are specified in the law in case of Madhya Pradesh, Mysore, Kerala and Orissa In other cases, the conditions of allotment and the amount recoverable are left to be prescribed in the Rules

It is envisaged that during the Third Plan, efforts would be made to settle about 7 lakh families of landless agricultural labourers on about 5 million acres comprising culturable waste lands, *bhoodan* and *gramdan* lands and surplus lands above the ceiling limit The settlements will be made, as far as possible, on co-operative basis for joint farming wherever sizable blocks of land are available The State Plans include a provision of Rs 3 5 crores for schemes of re-settlement Besides, there is also a provision of Rs 8 crores among the Central schemes for the re-settlement of landless agricultural labourers out of which Rs 1 crore would be set apart for financial assistance in *gramdan* villages Funds may also be available for schemes of settlement out of the provisions for co-operative farming and the *takavi* loans provided by the State Governments

CONCLUSION

Although considerable progress has been made in the enactment of legislation for land reform, it cannot be said that the problem has been satisfactorily solved either in terms of providing an efficient system of land use and management or in terms of evolving a stable social structure in rural areas The objectives of land reform, according to the Second Five-Year Plan, are 'firstly, to remove such impediments upon agricultural production as arise from the character of the agrarian structure; and secondly, to create conditions for evolving, as speedily as possible, an agrarian economy with high levels of efficiency and productivity'

The legislative reforms of the last fifteen years have only cleared the ground, as it were for the more positive steps which will have to be taken to attain the above objectives. Moreover, legislation is one thing, implementation of the reforms, another Many obstacles arising from the age-old rigidity of the rural social structure come in the way of speedy and satisfactory implementation of the new legislation In a number of cases the protection given to the tenant has not benefited him in practice because of the right of resumption given to landlord, the exercise of which has converted the tenant into an agricultural labourer and the landlord into the so-called 'personal cultivator' In anticipation of legislative reforms, large-scale evictions and transfers of land have taken place with a view to defeating the provisions of law It is possible that the net immediate impact of the spate of land reform legislation may have been to reduce productive efficiency Land reform measures should, therefore, be accompanied by appropriate steps to increase the productivity of agriculture by promoting more efficient methods of cultivation and provision of adequate credit and marketing facilities

CHAPTER IX

SIZE OF HOLDINGS AND PATTERN OF LAND TENURE*

Perhaps the most important factor which affects the character of farming and the returns from agriculture is the size of holding or the operational unit of cultivation India is predominantly a country of small holdings Doubts have been expressed regarding the capacity of the thousands of extremely small and fragmented holdings to step up productivity There are some authorities who believe that "none of the problems of inadequate or disproportionate equipment, of backward technique and efficiency, of under-development and wasted labour, of poverty and exploitation can be solved as long as the bulk of farming units are small "[1]

SIZE OF HOLDINGS

The average size of holding for the country as a whole and for individual States is shown in Table I On the basis of preliminary results of 1961 Census, the average size of holding for India works out to 7 39 acres But according to the 16th Round of the National Sample Survey, the size was 6 65 acres in 1959-60 as against 7 53 acres of the 8th Round in 1953-54 Considerable variations in the average size of holding is, however, observed in various States Thus the States of Punjab, Rajasthan, Madhya Pradesh, Gujarat, Maharashtra and Mysore falling more or less in the North-Western and South-Western Regions of India, have a relatively bigger size of holdings, the average size being 3 to 4 times that in the States in the Eastern Regions and 5 to 7 times

---

[*] For the preparation of this chapter we have freely drawn upon Shri P S Sharma's paper on "A Study of the Structural and Tenurial Aspects of Rural Economy in the Light of 1961 Census," submitted to the All-India Seminar on Population held in March 1964 (unpublished) and Shri B R Kalra's paper on "Regional Variations in Policy regarding Size of Agricultural Holding," submitted to the 23rd All-India Agricultural Economics Conference, held in December 1963 and being published in *Indian Journal of Agricultural Economics*, Vol XX, No 2, April-June, 1965

[1] D R Gadgil, Presidential Address, *The Indian Journal of Agricultural Economics*, Vol X, No 1, March 1955, p 28

that in Kerala which has the lowest operational unit of cultivation — 1.83 acres.

TABLE I

AVERAGE SIZE OF CULTIVATED HOLDING IN INDIA

(in acres)

State	1961 Census	National Sample Survey	
	Household operational holding (1960-61)	16th Round Operational holding (1959-1960)	8th Round Agricultural holding (1953-54)
1	2	3(a)	3(b)
Jammu & Kashmir	3.84	3.87	3.98
Punjab including Pepsu	13.78	11.17	11.68
Rajasthan	16.01	13.79	16.94
Uttar Pradesh	5.27	4.60	4.83
Madhya Pradesh	10.60	10.01	12.27
Madhya Bharat			14.23
Vindhya Pradesh			8.72
Bihar	4.80	3.99	4.14
Orissa	5.19	4.61	5.08
West Bengal	4.10	3.88	3.57
Assam	4.75	4.13	5.42
Maharashtra	12.87	13.06	12.62*
Gujarat	12.53	11.98	
Andhra	8.04	6.64	6.51
Hyderabad	—	—	15.51
Mysore	10.48	9.65	7.98
Kerala	1.83	1.96	1.83**
Madras	4.58	3.89	4.15
All-India	**7.39**	**6.65**	**7.53**

*Bombay and Saurashtra

**Erstwhile Travancore and Cochin State

Source Quoted in P. S. Sharma, "A Study of the Structural and Tenurial Aspects of Rural Economy in the Light of 1961 Census," *Op. cit.*

The comparison between the N.S.S. data on the size of holdings given in the 8th and the 16th Rounds indicates that the average size of operational holding has gone down from 7.53 acres in 1953-54 to 6.65 acres in 1959-60. The rapid growth of population has resulted in the worsening of the land-labour ratio. During the last decade the population increased by 21 79 per cent and the number of cultivators by 40 86 per cent while cultivated area increased by only 20 per cent The sub-division of ownership holdings through inheritance and transfers generally results in the break-up of ownership as well as operational holdings During 1951-61 the proportion of workers engaged in agriculture to total workers increased from 72 15 per cent to 73 13 per cent whereas the objective of the Government policy is to reduce the proportion of agricultural labour force to 60 per cent of the total by 1975-76 On the basis of comparative data collected through the 8th and the 16th Rounds of the N S S, the number of operational holdings increased by 4 5 millions between 1953-54 and 1959-60 although no increase in area was reported

Distribution of Holdings

The inequality of distribution in land is indicated by the area of land comprised in different size-groups The distribution pattern of holdings and area is uneven, more so in small-sized and large-sized holdings Generally speaking, the proportions of households exceed the proportions of area in small-sized holdings The reverse tendency has been observed in large-sized holdings (Table II)

TABLE II

CUMULATIVE PERCENTAGE DISTRIBUTION OF OPERATIONAL HOLDINGS AND OF AREA

Size-group (acres)	Number	Area
Upto 1 00	19 42	1 32
5 00	62 96	18 88
10 00	81 81	38 83
15 00	89 42	52 68
25 00	95 26	69 30
50 00	98 93	87 82
All Sizes 100 00	100 00	100 00

Source National Sample Survey Sixteenth Round, Report No 122—Tables with Notes on Agricultural Holdings in Rural India, Cabinet Secretariat, Government of India (1962), quoted in B R Kalra's paper. *Op cit*

While 19 42 per cent of holdings operating one acre or less have command over only 1 32 per cent of the total area, 1 07 per cent of holdings above 50 acres have as much as 12 18 per cent of the land under them As many as 62 96 per cent of the households — nearly two-thirds — cultivate less than 5 acres and the area cultivated by them does not exceed 18 88 per cent of the cultivated area Assuming that a holding of 10 acres and more would be generally considered to be economic under the present technique of cultivation, as much as 61 17 per cent of the total cultivated land was being operated in economic units Thus, although about two-thirds of all the households have land less than 5 acres, at least two-thirds of the land in rural areas was being cultivated in units which could not be characterized as uneconomic The preponderance of uneconomic farmers would naturally mean numerical preponderance of small farms Viewed in the context of the total cultivated land, it cannot be said that uneconomic farms are a characteristic or a typical feature of Indian agriculture The fact that in spite of heavy pressure of population on land the bulk of the land continues to be cultivated in fair sized units has significance in the understanding of the problem of concentration

The apparent concentration of ownership is a reflection of the phenomenon of pressure of population Given the scarcity of land and the population pressure, ownership of even a fair sized farm by a small percentage of cultivators would leave large numbers crowding at the bottom with very little land The crowding at the bottom of the agricultural ladder is thus not necessarily the consequence of the top few occupying excessive areas If ownership or operation of 100 acres or more of land—irrespective of its quality—is considered excessive, no more than 6—7 per cent of cultivated area would come under this category, with the limit placed at 50 acres, the percentage would be about 12. The crux of the matter is that there are far too many persons who in the absence of alternative opportunities of gainful employment have taken refuge at the bottom of the ladder It is essentially a phenomenon of pressure of population and under-development of the economy Ceilings on land and redistribution would not therefore provide a solution to the problem of "excessive" ownership

PATTERN OF OWNERSHIP AND TENANCY

In the context of extensive land reforms in India it may be of interest to study the distribution of ownership and tenancy The N S S data of the 8th and the 16th Rounds reveal some interesting features in this connection According to the 16th Round, the percentage of operated area owned was 87 47 per cent of the total cultivated area as against 79 66 per cent at the time of 8th Round in 1953-54 Thus there was a net decline in leased-in area from 20 34 per cent in 1953-54 to 12 53 per cent in 1959-60 The decline in leased-in area is almost evenly spread over different size classes of operational holdings

The most significant fact to be noted in regard to tenancy is that although the extent of mixed tenancy is sizable, pure tenancy is insignificant (Table III) For the country as a whole, only 4 22 per cent of the cultivated land was under pure tenancy and only 7 7 per cent of the total rural households were pure

TABLE III

PERCENTAGE DISTRIBUTION OF CULTIVATING HOUSEHOLDS AND CULTIVATED AREA BY INTEREST IN LAND IN RURAL AREAS, 1960-61

State *	Ownership		Pure Tenancy		Mixed Tenancy	
	h	a	h	a	h	a
1	2	3	4	5	6	7
Jammu & Kashmir	58 21	53 06	7 90	7 05	33 89	39 89
Punjab	51 66	51 40	13 76	9 77	34 58	38 83
Rajasthan	88 96	89 01	3 87	2 55	7 17	8 44
Uttar Pradesh	89 53	91 39	3 22	1 69	7 25	6 92
Madhya Pradesh	80 21	80 09	5 55	3 28	14 24	16 63
Bihar	67 82	67 82	7 35	7 35	24 83	24 83
Orissa	77 83	78 09	4 89	2 87	17 28	19 04
West Bengal	65 64	65 05	13 34	10 18	21 02	24 77
Assam	62 91	65 37	15 39	9 36	21 70	25 27
Gujarat	86 54	86 67	4 07	2 62	9 39	10 71
Maharashtra	78 49	77 31	7 29	3 84	14 22	18 85
Andhra Pradesh	78 98	76 68	6 28	3 68	14 74	19 64
Mysore	70 47	67 38	10 11	4 84	19 42	27 78
Kerala	54 90	42 79	32 53	34 72	12 57	22 49
Madras	76 21	78 08	10 96	6 64	12 83	15 28
All-India*	**76.84**	**77.59**	**7.70**	**4.22**	**15.46**	**18.19**

h = Cultivating households

a = Cultivated area

Source 1961 Census Household Schedule B-XI, quoted in P S Sharma's paper, *Op cit*

* Inclusive of Union Territories in respect of households but in the case of cultivated area it is exclusive of Union Territories

tenants. The proportion of area under pure tenancy varied between 2.55 per cent in Rajasthan to as high as 34.72 per cent in Kerala. West Bengal had 10.18 per cent of the cultivated area under pure tenancy, Punjab 9.77, Assam 9.36, Bihar 7.35, Jammu & Kashmir 7.05 and Madras 6.64. The percentage of rural households with pure tenancy varied between 3.22 in Uttar Pradesh to 32.53 in Kerala. In Assam 15.39 per cent of the rural households reported to be pure tenants, in Punjab 13.76, in West Bengal 13.34, in Madras 10.96 and in Mysore 10.11. Again in pure tenancy holdings Kerala, Bihar, Madras, Uttar Pradesh and West Bengal shared among themselves more than half of the total one acre pure tenancy holdings as these States maintain their predominant position in small-sized holdings. Punjab, Rajasthan and Maharashtra have a relatively larger percentage of large-sized pure tenancy holdings.

Mixed tenancy is fairly widespread. The percentage of the total cultivated area under mixed tenancy varied between 6.92 in Uttar Pradesh to 39.89 in Jammu & Kashmir. In Punjab, this was as high as 38.83, in Mysore 27.78, in Assam 25.27, in Madhya Pradesh 24.83, in West Bengal 24.77 and in Kerala 22.49. Punjab led the rest of the States with over one-third of the households in mixed tenancy, followed by Jammu & Kashmir (33.89), Bihar (24.83), Assam (21.70), West Bengal (21.02) and Mysore (19.42). Bihar and Uttar Pradesh have a significant proportion of the total one acre mixed tenancy holdings. In the subsequent small-sized classes, in addition to the above two States, West Bengal and Madras also come into the picture. In the large-sized mixed tenancy holdings Punjab, Madhya Pradesh, Maharashtra, Mysore and Andhra Pradesh are having among themselves a significant proportion.

Of all the land-owning rural households, 81.35 per cent with 69.23 per cent of land do not lease out land at all, 16 per cent lease out a part of their land and only 2.65 per cent lease out all their land amounting to 1.84 per cent of the total area owned by all rural households. Small as well as big landowners lease out land and although the percentage of leasing out families increases with the increase in the size of ownership holdings, the percentage of such families in the group owning less than one acre was 9.42 and in the group owning between 2 50 - 4 49 acres it was as high as 22 Nearly 70 per cent of the total leased out area by rural households was contributed by those who owned and operated less than 10 acres and out of this 70 per cent, 36 per cent was contributed by those households whose per household area owned was one acre[2] For all-India, about half of the leased-in area was contributed by non-resident owners Land was leased-in by small as well as large operators, but more than 60 per cent of the total leased-in area was with those who operated a holding of more than 10 acres As much as 18 per cent of the land operated by the group with more than 50 acres was taken on lease[3] The above analysis should explode the belief firmly held even in the highest quarters of policy makers that those who lease-in land (tenants) are necessarily small farmers and those who lease out are big absentee land-owning rentiers

SUB-DIVISION AND FRAGMENTATION

The disadvantages of the small size of holdings from the point of view of agricultural developments become aggravated with their excessive fragmentation A study by the F A O of the United Nations[4] defines fragmentation as a stage in the evolution of the agricultural holdings, in which a single farm consists of numerous discrete parcels, often scattered over a wide area This phenomenon occurs in most parts of the world where cultivation is long established It is not peculiar to any particular form of land tenure It has been usually associated with congestion of rural population and laws of inheritance which prescribe distribution of property among surviving relatives according to a fixed share Other contributory causes in India were (1) the evolution of a code of juristic rights in the recent past which emphasised individual rights and ownership, (2) the gradual breaking up of the joint family system and insistence on the partition of land, (3) the liability of the registered holder to pay the land revenue for the piece of land registered in his name, and (4) acquisition of holdings by moneylenders in lieu of debt

---

[2] The National Sample Survey Eighth Round July 1954 — March 1955, Number 10 — First Report on Land Holdings, Rural Sector, Cabinet Secretariat, Government of India (1958), pp 17-23

[3] The National Sample Survey Eighth Round July 1954 — April 1955, Number 30 — Report on Land Holdings (2) (Operational Holdings in Rural India), Cabinet Secretariat, Government of India (1960), pp 20-21

[4] The Consolidation of Fragmented Holdings, Food and Agriculture Organization of the United Nations (1950), p 5

The latest available information on the extent of fragmentation available from the 16th Round of the National Sample Survey is given in Table IV

TABLE IV

ESTIMATED NUMBER OF PARCELS AND ITS AVERAGE AREA BY SIZE-GROUP OF OPERATIONAL HOLDING 1959-60

(ALL-INDIA)

Size-group of operational holding (acres)	Number of parcels per operational holding	Average area of parcels 0 00 acres
Less than 0 49	1 61	0 15
0 50 — 0 99	2 82	0 26
1 00 — 2 49	4 41	0 38
2 50 — 4 99	6 30	0 58
5 00 — 7 49	7 60	0 80
7 50 — 9 99	8 30	1 04
10 00 — 12 49	8 47	1 31
12 50 — 14 99	8 13	1 62
15 00 — 19 99	8 87	1 93
20 00 — 24 99	8 66	2 55
25 00 — 29 99	8 50	3 21
30 00 — 49 99	9 06	4 12
50 00 and above	9 39	8 06
All Sizes	5 82	1 14

Source . National Sample Survey Sixteenth Round, Report No 122 — Tables with Notes on Agricultural Holdings in Rural India, quoted in B R Kalra's paper, *Op cit*

The common remedial measure suggested for fragmentation is consolidation of holdings which consists of realignment of isolated strips of land into a compact block by substitution by an exchange of land.

CONSOLIDATION OF HOLDINGS[5]

Review of Legislative Measures

The need for legislative measures for consolidation of the fragmented holdings and prevention of further fragmentation was felt more than five decades ago in India On the eve of the First Five-Year Plan, legislation regarding consolidation of holdings was in force in the then Bombay State, Punjab, Madhya Pradesh, Hyderabad and U P After the commencement of the First Plan, consolidation legislation received fresh impetus and Acts were passed in the States of Orissa, West Bengal, Rajasthan and Himachal Pradesh In Orissa, the Agriculture Act of 1951 and in West Bengal the Land Reforms Act of 1955 included provisions relating to consolidation of holdings In 1953, the U P Consolidation of Holdings Act was replaced by a fresh Act which was further amended by the Consolidation of Holdings Act of 1962 During the Second Plan period, the Hyderabad Prevention of Fragmentation and Consolidation of Holdings Act of 1956 was passed and a bill to extend this Act to Andhra Pradesh was moved in the Andhra Pradesh Legislative Assembly but it lapsed Consolidation of Holdings Acts were passed in Bihar in 1956 and in Mysore and Assam in 1960 Jammu & Kashmir also followed with similar legislation in 1962 In the States of Madras and Kerala, there is no legislative provision for consolidating fragmented holdings.

Legislative Provisions

In the early 'twenties, the legislation was permissive and aimed at the exchange of plots on a voluntary basis In Punjab, co-operative societies registered under the Co-operative Societies Act, 1912 were expected to take up consolidation purely on a voluntary basis Recognising the ineffectiveness of voluntary measures, an element of compulsion was introduced during the 'thirties. The C P Consolidation of Holdings Act, 1928, the Punjab Consolidation of Holdings Act, 1936 and the U P Consolidation of Holdings Act, 1939 fall under this category Under these Acts, the scheme of consolidation was made binding on all permanent right holders, if not less than one-half of the permanent holders holding not less than two-thirds of the occupied area agreed to the scheme These three Acts were subsequently replaced by new legislation The Bombay Prevention of Fragmentation and Consolidation of Holdings Act of 1947, for the first time, empowered the Government to initiate consolidation proceedings without the necessity of taking prior consent of the cultivators concerned The other States in which such comprehensive provisions are provided in the legislation are Punjab, Pepsu (now merged with Punjab), U P , Rajasthan, Hyderabad area of Andhra Pradesh, Mysore and Jammu & Kashmir Under the Madhya Pradesh Land Revenue Code, 1959, any two or more tenure holders in a village, holding together not less than the minimum prescribed area may apply for consolidation of their holdings Under Section 206 (3) of the Code, if two-thirds of the tenure holders in a village apply for consolidation of their holdings, the application is deemed to be the application on behalf of all the tenure holders of the village Under Section 39 of the West Bengal Land Reforms Act, 1955, and under Section 3 of the Assam Act, consolidation operations can be initiated only after two-thirds or more of the owners of the holdings proposed to be consolidated agree to it Thus consolidation laws in Madhya Pradesh, Assam and West Bengal do not provide for consolidation at Government's initiative In view of the need to accelerate the pace of progress of consolidation of holdings and thereby increase efficient utilisation of land resources, it appears desirable that consolidation schemes be initiated by the Government instead of being left entirely to the voluntary efforts of cultivators

---

[5] The subsequent discussion is largely based on the article on "Consolidation of Holdings in India — Review of Progress," published in the *Reserve Bank of India Bulletin,* Vol XVII, No 6, June 1963, pp 790-803

The definition of consolidation adopted in different States falls broadly in two categories At one extreme are the States like Punjab and Uttar Pradesh where consolidation is regarded as an aspect of an integrated programme of village development and at the other are States like Maharashtra, Gujarat, Bihar, Madhya Pradesh, Orissa, West Bengal and Assam where consolidation work confines itself to mere re-grouping of fragmented holdings to form compact holdings. The advantages of combining consolidation work with the other measures such as replanning the entire village and reserving lands for common purposes as in Punjab, are that both the grouping of scattered plots and integrated improvement of the village are ensured at one stretch However, this course has its own difficulties As observed by the Hyderabad Land Commission on Consolidation of Holdings (1955), "though much attractive and, therefore, desirable, this involves huge expenditure in the *de novo* survey of the entire village and creates considerable complications in deducting the area required for the common purposes from every holder and settlement of compensation for it"

Legislation of this type can be effective only if public support is forthcoming in a large measure It is, therefore, necessary to create a favourable public opinion In this context, the significance of a village advisory committee cannot be over-emphasised Except West Bengal, in all other States there is provision for setting up an advisory committee or consultation with village panchayat The village committees have to advise generally on all matters concerning consolidation and in particular, to help in the appointment of guardians of minors, etc, and to assist in the classification and valuation of fields, in the preparation of the consolidation scheme and in the formation of new holdings to be allotted to individuals Though these committees are advisory in character, their advice is generally accepted

After the constitution of village advisory committee, consolidation operations begin with certain preliminary steps Most important of these steps is the correction of records and preparation of preliminary statements The Acts of Uttar Pradesh, Bihar, Jammu & Kashmir and Himachal Pradesh specifically provide for revision and correction of records of rights and maps The corrections made in the maps and records are to be brought to the notice of villagers and finalised in consultation with them This step of consolidation procedure takes considerable time with consequent delay in actual consolidation work Hence, the Planning Commission has suggested that the regions which get priority for consolidation may be divided into three areas, namely, (1) region where consolidation can be taken up, (2) regions which will come under consolidation next but where the preliminary steps mentioned above will be taken up simultaneously and (3) remaining areas where consolidation will follow later on The Commission has further suggested that the revenue staff from region (3) which will be substituted by new staff could be utilised for expediting work in region (1) and normal revenue staff in region (2) should bring the records up-to-date by the time consolidation is initiated there

After the records are brought up-to-date, the Consolidation Officer prepares a draft scheme of consolidation In Punjab, however, before preparation of the draft scheme, one more step called 'rectangulation' is involved Irregular fields of odd shape are replaced by rectangular fields of approximately one acre size The object of rectangulation is to facilitate the partition of land in consolidation proceedings and also to provide right holders with fields of convenient size for irrigation and cultivation With straight-water course and even shaped fields, there is much greater convenience and much less waste in the use of water There are also other advantages such as elimination of boundary disputes, better farm management, etc However, rectangulation is done in Punjab only In other States, the shape of existing fields is not altered and individual blocks are formed either by amalgamating them or, where necessary, by partitioning them Although the process of rectangulation is costly and time consuming, its advantages far outweigh the cost and efforts involved

The next step in some States is preparation of a consolidation scheme by a Consolidation Officer and its publication inviting objections from affected persons In Uttar Pradesh and Jammu & Kashmir, however, the preparation of a statement of principles precedes the preparation of a statement of proposals, *i e*, consolidation scheme proper If no objections are received, the scheme is confirmed In case objections are received, the Consolidation Officer considers the objections and submits a revised scheme to the Settlement Commissioner who is empowered to consider the objections and confirm the scheme. In most of the States the Settlement Commissioner is empowered to confirm the scheme In Gujarat, Maharashtra and Mysore, however, every time the scheme is amended, it has to be published and the power of confirmation, when objections continue, lies with the Government This procedure is likely to result in delays in implementing the scheme.

Since consolidation involves planned and systematic exchange of land, new and compact blocks being given in place of the previous scattered plots held by the individual cultivator, proper valuation of land is very important Plots of land vary greatly in texture and quality of soil, facilities of irrigation, productivity, distance from the village and other advantages. Hence it is essential to have a method of valuation by which different classes of land can be reduced to a comparable basis. The method should be as objective as possible to reduce the chances of error by individual judgement, caprice or dishonesty and should be simple so that the villagers can understand it without much difficulty This minimises the chances of discontent and disputes The methods of valuation used in different States fall into the following three categories (1) valuation on the basis of rental value (assessment), (2) valuation on the basis of market value and (3) valuation on the basis of productivity For example, the first method is used in Uttar Pradesh, the second in Maharashtra and Gujarat and the third in Punjab, Madhya Pradesh, Delhi and Himachal Pradesh Legislation in all the States provides for payment of compensation to the owner who is allotted a holding of less value than that of his original holding

Prevention of Fragmentation

While it is necessary to consolidate the scattered holdings into compact blocks, it is as, and even more, essential to make statutory provisions for preventing the recurrence of fragmentation in future. As the forces that lead to fragmentation are constantly at work, some steps are necessary to prevent further deterioration of the situation Fragmentation has three aspects (1) diminution in the size of a holding, (2) scattering of a holding into widely separated plots and (3) diminution in the size of any plot comprised in a holding to such an extent that it is unprofitable to cultivate it Diminution in the size of a holding generally results from partitions consequent upon inheritance, transfer by sale, mortgage, gift or lease It frequently happens that during partitions, not only the total holding is sub-divided into smaller units but even individual plots get sub-divided into fragments due to an anxiety on the part of the co-sharers to get a share of each class of land Similarly, unregulated transfers also result at times in tiny plots Legislation, therefore, generally tries to prevent such fragmentation by regulating partitions, transfers and leases

As a first step towards prevention of fragmentation, the Acts in different States authorise the State Governments to determine a standard area The standard area is a plot of minimum area which can be cultivated profitably After determining the 'standard area', all plots of land which are smaller than 'standard area' are declared fragments and entered in the village records Various restrictions are put on the transfer, partition and lease of holdings which are of standard size as well as those which are fragments Provision is also made to transfer a fragment to the contiguous holder or cultivator with a view to merging it with the adjoining holding The transactions in contravention of the provisions are declared void In some States, there is also a provision for the imposition of a fine In all the States except Madras, Kerala, Jammu & Kashmir and Himachal Pradesh, legislative provisions exist for prevention of fragmentation[6] Evils of fragmentation are sought to be controlled through necessary provisions in the Consolidation Acts in Assam, Bihar, Gujarat, Rajasthan and Telangana area of Andhra Pradesh, while in Uttar Pradesh and West Bengal it is done under Land Reforms Act In Madhya Pradesh, the Land Revenue Code contains the necessary provisions In Assam, the provisions for prevention of fragmentation apply only after land is consolidated, in areas where consolidation operations have not been initiated, there is no check on further fragmentation

Cost of Consolidation

As in the case of other schemes, an important question with regard to consolidation is the cost of operation and the ways of meeting it In Punjab, where consolidation schemes are integrated with other schemes, such as the setting a part of land for village roads, drainage, irrigation works, schools, panchayat, etc, lands required for these purposes are obtained in the form of proportionate contributions by cultivators and no compensation has to be paid. Labour for construction of village roads, tanks, etc, is also contributed voluntarily by the villagers themselves and no cash payments are required Similarly, exchange of land is accompanied where other adjustments are not possible, by cash payments wherever value of lands exchanged differs These payments also do not form part of cost of consolidation The cost of consolidation thus includes only the cost incurred on the special staff and contingencies for resurvey and measurements wherever necessary and for the actual work of consolidation itself

---

[6] *Vide* Progress of Land Reform, Planning Commission, Government of India (1963), pp 26-29 and 92-98

For inter-State comparison of cost of consolidation, we may examine the cost per acre of land consolidated Data given in Table V show that these costs varied from State to State

TABLE V

COST OF CONSOLIDATION

State/Union Territory	Total Expenditure incurred upto the end of 1961-62 (Rs in lakhs)	Expenditure Incurred per Acre in Rs		
		Prior to Second Plan period, *i e*, since inception upto 31-3-1956	At the end of the Second Plan (1960-61)	During 1961-62
Andhra Pradesh	15 8	—	3 53	3 41
Bihar	N A	—	15 90	23 15
Gujarat	47 0	7 03	6 24	5 42
Madhya Pradesh	32 1	0 52	2 56	3 47
Maharashtra	89 1	6 95	5 68	2 44
Mysore	16 5	4 20	1 85	1 60
Punjab	672 4	5 46	3 66	4 76
Rajasthan	54 4	—	3 00	1 80
Uttar Pradesh	972 2	40 66	14 25	9 61
Delhi	N A	0 59	N A	N A
Himachal Pradesh	15 6	15 25	8 08	9 00
Total	1,915 1			

Source *Reserve Bank of India Bulletin*, Vol XVII, No 6, June 1963

As may be seen from Table V, the cost during 1961-62 was the highest in Bihar at Rs 23 15 per acre, and it was the lowest in Mysore at Rs 1 60 per acre In almost all the States, cost of consolidation per acre witnessed a declining trend As more experience is obtained and the programme gets momentum, the cost tends to fall Differences in the cost per acre between different States are due to differences in efficiency and economy in the arrangements made and differences in local conditions and items of work taken up in consolidation As regards the source of finance for meeting the expenses of consolidation, in Maharashtra, Gujarat and parts of Mysore where the Bombay Act is applicable the costs of consolidation are entirely met by the State Government In all the other States, the costs are realised from the land holders as arrears of land revenue

Progress of Consolidation

As observed earlier, legislation to provide for consolidation of holdings has been passed in thirteen States and two Union Territories However, the scheme has not been implemented so far in Assam, Jammu & Kashmir, Orissa and West Bengal The progress of consolidation in the remaining States is as shown in Table VI

TABLE VI

PROGRESS OF CONSOLIDATION OF LAND HOLDINGS (SINCE INCEPTION OF THE SCHEME TILL 31-3-1962)

(in lakh acres)

State/Union Territory	At the end of the First Five-Year Plan (1955-56)	At the end of the Second Five-Year Plan (1960-61)	During 1961-62	Total (Cols 2 and 3)
Andhra Pradesh	—	3 12	1 41	4 53
Bihar	—	0 60	0 20	0 80
Gujarat	2 61	6 48	1 21	7 69
Madhya Pradesh	29 27	38 20	2 66	40 86
Maharashtra	4 32	13 20	6 29	19 40
Mysore	2 74	9 95	1 97	11 92
Punjab	61 80	147 28	27 87	175 15
Rajasthan	—	18 73	7 42	26 15
Uttar Pradesh	1 89	53 94	21 20	75 14
Delhi	2 02	2 04	—	2 04
Himachal Pradesh	0 04	1 26	0 06	1 32
Total	104 69	294 80	70 29	365 09

Source Department of Agriculture, Ministry of Food and Agriculture, Government of India, quoted in the *Reserve Bank of India Bulletin*, June 1963

Up to the end of the First Plan period only 10 5 million acres of land were consolidated and out of these more than one-half was accounted for by the Punjab and about one-fourth by Madhya Pradesh During the Second Plan period, rapid progress was recorded and the total area of land consolidated nearly trebled During the first two years of the Third Plan, about 14 6 million acres have been consolidated and at the end of 1962-63, consolidation work was in progress over nearly 8 million acres It is expected that the Third Plan target of 31 million acres[7] will be reached Progress in consolidation up to 1961-62 was especially marked in Gujarat, Maharashtra, Mysore, Punjab, Rajasthan and Uttar Pradesh In all these States, the area consolidated increased between three to four times of that consolidated till the end of the First Five-Year Plan In Andhra Pradesh, Madhya Pradesh and Himachal Pradesh also substantial progress was recorded In Bihar, however, the progress was poor

Even though the attention paid to consolidation operations is increasing in recent years, more intensive efforts are required to solve the problem of fragmented holdings A broad idea of the magnitude of the problem can be had from comparison of the area consolidated till 1961-62 with the net area sown in each State, as shown in Table VII

Despite certain limitations in this type of comparison, the data in Table VII clearly show that it was only in Punjab that almost the entire sown area has been consolidated In Uttar Pradesh, about one-fifth of sown area and in Madhya Pradesh and Rajasthan about one-tenth each has been consolidated In other words, the problem of consolidation is still of a large magnitude in almost all the States except Punjab

Thus the progress of consolidation of holdings has been uneven among the different States In fact, there are still two States, namely, Madras and Kerala where legislation for consolidation and prevention of fragmentation has not been enacted In some States, namely, Assam, Jammu & Kashmir, Orissa and West Ben-

---

[7] The Third Plan Mid-term Appraisal, Planning Commission, Government of India (1963), p 101

TABLE VII

EXTENT OF AREA CONSOLIDATED

('000 acres)

State	Net area sown (1958-59)	Area Consolidated (1961-62)	Percentage of column (2) to (1)
	1	2	3
Andhra Pradesh	27,210	453	1.7
Bihar	16,967	80	0.5
Maharashtra-Gujarat	67,982	2,718	4.0
Jammu & Kashmir	1,596	—	—
Kerala	4,578	—	—
Madhya Pradesh	39,094	4,086	10.5
Madras	14,323	—	—
Mysore	25,289	1,192	4.7
Punjab	18,494	17,515	94.7
Rajasthan	31,052	2,615	8.4
Uttar Pradesh	42,142	7,514	17.8
West Bengal	12,942	—	—
Assam*	5,110	—	—
Orissa**	13,873	—	—

* Data relate to 1953-54

** Data relate to 1955-56

Source Economic Survey of Indian Agriculture 1960-61, Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India (1962)

gal though the necessary legislation has been enacted, the scheme has not so far been taken up for implementation. Then again, there are a few States such as Bihar where, although the scheme has been implemented, the progress is poor. In view of the objectives set forth by the Working Group on Consolidation of

Holdings to bring under consolidation during the course of the next fifteen years beginning with 1961-62, all areas where fragmentation presents a serious problem it is necessary to expedite the progress It is already laid down in the Third Plan that about 31 million acres would be consolidated during the course of the Plan period The prospects of achieving this target seem to be bright since nearly 14 6 million acres or nearly half of the target was achieved in the first two years of the Plan At the same time, it may be noted that the bulk of this achievement was recorded in Punjab and U P , which indicates the need for speedy implementation of the scheme in other States

CHAPTER X

COMMUNITY DEVELOPMENT AND PANCHAYATI RAJ

COMMUNITY DEVELOPMENT

Concept and Approach

No programme of economic development in India can have deep roots unless it reaches the villages where the mass of the population lives Community Development and Rural Extension are designed to carry the message of development to the villages and to make them active participants in the tasks of development Only by creating an active enthusiasm for development among the people can continuing and accelerating growth on a democratic basis be ensured The First Five-Year Plan stated "Community Development is the method and Rural Extension is the agency through which the Five-Year Plan seeks to initiate a process of transformation of the social and economic life of the villages" The programme which was initiated in 1952, had four basic aims (*a*) creation of a progressive outlook among the rural population, (b) inculcating habits of co-operative action, (c) securing increased production and (d) promoting increased employment[1] It sought to combine in itself the welfare and the developmental aspects of economic change Active participation of the people, with the advice given by governmental agencies, is the very foundation of Community Development While the National Extension Service is concerned mainly with "interesting the cultivator in ways of improving the techniques and organisation of farming and helping him to adopt these,"[2] Community Development aims at a broad-based and co-ordinated development of all aspects of village life including rural industries and social services like education and health and the development of transport and communications

---

[1] Programme Evaluation Organisation Evaluation Report on the First Year's Working of Community Projects, Planning Commission, Government of India (1954), p 45

[2] *Ibid*, p 23

Earlier Attempts

The basic idea underlying intensive development aimed at securing co-ordinated development of rural life as a whole in India is not new As early as 1928, the Royal Commission on Agriculture stressed that no lasting improvement in rural life is possible if its different aspects are treated in isolation[3]

Examples of non-official efforts at rural reconstruction are found in Mahatma Gandhi's Wardha Scheme of Education, Poet Rabindranath Tagore's rural reconstruction scheme in Sriniketan, the rural reconstruction centre in the former Baroda State, the Sevagram Ashram in Madhya Pradesh, the Firka Development Scheme in Madras, the Sarvodaya Centres in Bombay and in Etawah and Gorakhpur in Uttar Pradesh, Spencer Hatch's scheme at Martandum (Trivandrum), the work by various Christian Missions, etc However, rural reconstruction activities before the attainment of Independence were limited in scope and coverage in spite of Tagore's emphasis on, and Sriniketan's attempt to develop a total programme Moreover, rural reconstruction activity among the villagers themselves did not come into prominence in the official efforts The average cultivator was not brought actively into a co-operative effort at improvement, the departments concerned failed to organise the rural people themselves for a collective endeavour The poor response to the "grow more food" campaign illustrated the weakness of the organisation If there had been peasants' organisations, associations and chambers to inspire their confidence and claim their loyalty, the results would undoubtedly have been better

Government's efforts to bring about improvement in rural areas were directed through several Development Departments such as Agriculture, Co-operation, Health, Education, etc These, however, worked independently of one another and without a sense of common objective The Grow More Food Enquiry Committee (1952), after a careful review of efforts towards improvement of the rural life of the villagers, came to the conclusion that agricultural improvement is an integral part of the wider problem of raising the level of rural life The economic aspects of village life cannot be detached from the broader social aspects, and agricultural improvement is inextricably linked up with a whole set of social problems The Committee, therefore, recommended a scheme of development of village life covering all aspects and the organisation of a National Extension Movement covering the entire country within a period of 7 or 8 years[4] This scheme was incorporated in the First Five-Year Plan of the nation, which stressed community development as a distinctive approach to these problems For the first time, a centralised and co-ordinated policy was formulated in the Community Development Project and National Extension Service

---

[3] Report of the Royal Commission on Indian Agriculture (1928), pp 672-73

Basic Principles

The movement lays stress on the following basic principles (i) In areas of intensive effort, developmental agencies of the Government should work together as a team in programmes which are planned and co-ordinated in advance The activities comprised within the community development and national extension programme should be regarded as an integral part of a programme for improving all aspects of rural life (ii) There has to be a co-ordinated approach to the villager, comprehending his whole life, through a common agent, *viz*, the village level worker (iii) While the official machinery would guide and assist the motive force for improvement should come from the people themselves, the State assisting also with supplies, services and credit (iv) The vast unutilised energy in the countryside should be harnessed for constructive work, every family devoting its time not only to its own programmes but also to programmes for the benefit of the community (v) Programmes should be pursued intensively to gain the best results Practically every agriculturist family should make its own contribution through a village organisation (vi) The approach to the villager should be in terms of his own experience and problems, conceived on the pattern of simplicity, avoiding elaborate techniques and equipment, until he is ready for them (vii) There should be a dominant purpose round which the enthusiasm of the people could be aroused and sustained The aim should be to create in the rural population a burning desire for a higher standard of living — the will to live better (viii) The co-operative principle should be applied in its infinitely varying forms for solving all problems of rural life [5]

---

[4] Report of the Grow More Food Enquiry Committee, Government of India (1952), Conclusions and Recommendations, pp 6 - 28 and 68 - 71

In brief, the movement seeks to bring about a change of outlook in the following three directions (i) increased employment and increased production by the application of scientific methods of agriculture, animal husbandry, etc, and the establishment of subsidiary and cottage industries, (ii) self-help and self-reliance and the largest possible extension of the principle of co-operation, and (iii) the need for community effort for building up community assets such as roads, tanks, schools, health centres, etc [6]

The actual programme of work drawn up in furtherance of this movement has naturally undergone changes from time to time, specially in regard to approach, duration and the amount and structure of the budget Broadly, the patterns so far evolved in these respects have been of three types the community projects — the initial pattern, the N E S which soon replaced it, and, finally the pattern emerging after the report of the Balvantrai Mehta Team with its emphasis on integrated approach and *Panchayati Raj* A brief account of the main features of these programme patterns is given here

A separate section has been devoted to *Panchayati Raj* as it seeks to bring about far-reaching changes in the administrative system and methods of implementing the developmental programmes

COMMUNITY PROJECTS

The programme was inaugurated on October 2, 1952 in 55 projects comprising 27,388 villages having a population of 16 7 million Each Project Area was divided into 3 Development Blocks, a block consisting of about 100 villages and a population of about 60,000 to 70,000 spread over an area of 150-170 sq miles Each development block was to have a minimum administrative set-up consisting of the block development officer, extension officers for agriculture, animal husbandry and co-operation, two social education organisers, an overseer with public health bias, 10 village level workers and some ancillary staff The main lines of activity in a project are briefly divided into agriculture and related activities, irrigation, communications, education, health; supplementary employment, housing, training and social welfare

---

[5] Report on the First Five-Year Plan (1952), pp 223-24, and V T Krishnamachari Community Development in India (1958), p 15

[6] Community Development in India, *Op cit*, pp 18-19

The cost of a basic type of rural community project was estimated at Rs 65 lakhs for a period of three years In order to enable expansion of the programme in future, the Central Committee decided that the cost should not exceed Rs 45 lakhs per project The cost is shared between the Centre and the States in the proportion of 75 25 in respect of non-recurring expenditure and 50 50 in respect of recurring expenditure After a period of three years, the Community Project areas are intended to become Development Blocks and the State Governments are expected to bear all the expenses of the development blocks after the third year In the case of a national extension service block, the schematic budget was based on the outlay of Rs 4 5 lakhs in three years, in addition to Rs 3 lakhs as short term loans

NATIONAL EXTENSION SERVICE

There have been four stages in the spread of the National Extension Service as originally conceived They are (i) the pre-extension stage During this stage, local development programmes including those of local boards are organised to prepare the people for the N E S These programmes are prepared in consultation with the people, who make a contribution in the form of labour and/or money This is the stage of preparation (ii) The second stage is when the N E S is introduced in an area which is assisted by the Central Government on a permanent basis (iii) The blocks in which successful results have been achieved with maximum popular co-operation are selected for intensive development for a period of three years (iv) After this, the areas revert to the permanent N E S stage A programme was drawn up for starting 1 200 blocks during the First Plan period, 300 under the Community Project Scheme and 900 under the N E S, covering 120,000 villages and 75 million people or nearly one-fourth of the population within the operation of the extension service

Integrated Block Pattern

With a view to examining critically the working of the programme and its relationship with the wider aspects of development and administration, a Study Team led by Shri Balvantrai Mehta was appointed by the Committee on Plan Projects in 1957. The Team recommended the abolition of the distinction between the N.E.S., Intensive Development and Post-Intensive Development and its substitution by Stage I Blocks with a life of six years, to be followed by a Stage II period (post-intensive) of six years. It also recommended that the original budget ceiling of Rs. 15 lakhs should be restored and in the second phase, the budget ceiling should be Rs. 5.5 lakhs. In view of limited financial resources, shortage of technical personnel and of supervisory staff, the decision to cover the whole country with development blocks by 1961 should be revised and the date extended by at least three years.

These recommendations of the Study Team were accepted by the Government of India with some modifications. In regard to the pattern of the programme, it was decided to have only two stages. Stage I is the intensive development phase wherein people's participation would be promoted and the Panchayats would be intimately associated with the formulation of plans for the respective areas. The growth and functioning of self-reliant rural communities would depend upon the degree of success attained in the first stage. In the second stage which is the post-intensive phase, the operation of the method of Community Development would be intensified in its fuller amplitude, the emphasis is more on community development than on development programmes. But each stage would be of five years' duration, in order to maintain the urgency and dynamism of the programme. The period of operation of Stage I would, however, be extended by one year in specific cases in case of necessity.

As regards financial allotment, having regard to past experience of the rate of expenditure, it was decided that the schematic budget for a block should be Rs. 12 lakhs for Stage I and Rs. 5 lakhs for Stage II. Under the revised programme pattern, the programme in the post-intensive development blocks would, from the beginning, be entrusted to statutory bodies at the block or district level In order to maintain the tempo of progress as also to achieve progressively increased development in the areas, at the post-intensive stage, development departments would be required to make increased block-wise allotment of funds in their charge In regard to the rephasing of the expansion programme, the National Development Council decided that the programme should be staggered so as to cover the entire country by October, 1963 The Council also agreed to the introduction of a pre-extension stage for the programme with the intention of concerted effort on agriculture for one year

The revised pattern of community development programme came into operation in April, 1959 A shift in emphasis has thus taken place so as to develop local leadership capable of assuming greater responsibility for development In the formulation of the programme and the budget estimates for each block, the objectives are (i) In every block, from the very beginning, the block and village organisations would be basic units for formulating and carrying out different programmes, (ii) The Village Panchayat, the Village Co-operative and the Village School as also a statutory body at the block or district level are the foundations for the block development programmes Full responsibility for planning and implementing the programme should be transferred to them. These institutions should be established in the course of two or three years and should begin to function well before the end of the first stage, (iii) The programmes and activities of agencies included in the schematic budget as well as of departmental agencies which may not form part of the schematic budget, should be fully integrated into the block development plan, (iv) As far as possible, those provisions should be included in the schematic budget which are intended to attract local community participation in labour, money and other ways[7]

The Training Programme

To implement a programme of this magnitude, great importance should be attached to the training of workers — official and non-official It had been estimated that in the Second Plan period, technical personnel numbering 96,500 would be required in various categories such as project executive officers, block level extension officers, sanitary inspectors, lady health visitors, midwives, overseers, etc Great stress is laid on the training of staff A study on the working of Community Centres undertaken by the Programme Evaluation Organisation in 1957 in 20 selected blocks from the States of Assam, Bihar, Bombay, Kerala, Madras and Uttar Pradesh indicated that 25 per cent of the Block Development Officers, 32 per cent of agricultural officers, 22 per cent of the social education officers were untrained

---

[7] Community Development in India, *Op cit*, Appendix III, pp 153-154

The training programme has witnessed an all-round improvement during the Second Five-Year Plan period. Training facilities have been both expanded and improved The main improvement in the training of the village level workers was the introduction of an integrated course of agriculture and extension running for 2 years A Central Institute of Study and Research on Community Development was established at Mussoorie in 1958 for providing facilities for study in C D and allied subjects to M Ps , M L As , and to top-level administrators This Institute has been recently shifted to Hyderabad To provide training to the trainers in training centres, *e g*, principals, directors and instructors, a trainer's training institute has been set up for imparting training in teaching techniques, use of audio-visual aid, group discussions, the period of course being three months

ACHIEVEMENTS AND RESULTS

Coverage

The programme was initiated in October, 1952 By the end of 1955-56, out of 1,160 blocks allotted, 988 covering 1,40,000 villages and a population of 77 5 million had started working As part of the programme approved for the First Plan, 172 additional blocks comprising 17,200 villages and a population of 11 3 million were taken up in April 1956 Thus, one out of every three villages in India was covered by the programme

It was decided that during the Second Five-Year Plan the entire country should be covered with N E S To fulfil this target, 3,800 N E S Blocks were to be started during this period and 1,120 out of them were to be converted into C D Blocks In view of the amount allocated in the Second Plan for this programme, the estimated ceiling of expenditure for a three-year period was later reduced from Rs 15 lakhs to Rs 12 lakhs on a C D Block and from Rs 4 5 lakhs to Rs 4 lakhs on a N E S Block The Government of India agreed to continue to meet fifty per cent of the recurring expenditure on personnel to be retained on the N E S staffing pattern in Blocks which will have completed their scheduled period of operation In order to assist the keeping up of the tempo of work in the Projects/Blocks which revert to the post-intensive phase, an expenditure of Rs 30,000 per annum per block was provided for a period of three years for programmes relating to local works and social education

By the end of the Second Plan, 3,137 blocks had been started covering 374 thousand villages and about 203 million of the population (excluding towns with a population of one lakh and more) or 66 per cent and 61 per cent of the villages and population respectively as against 29 per cent and 27 per cent respectively at the beginning of the Second Plan In order to cover the entire rural area with development blocks, the country has been delimited into 5,223 blocks. Another 2,051 blocks have been allotted so far during the Third Plan period, making a total of 5,188 The remaining 35 was to be allotted by October 1963

An outlay of Rs 96 5 crores was provided in the First Plan Government expenditure came to Rs 46 2 crores during this period or about 48 per cent of the outlay During the Second Five-Year Plan, an outlay of Rs 201 3 crores was provided and Government expenditure came to about Rs 189 crores[8] The Third Five-Year Plan has provided for an outlay of Rs 305 3 crores in addition to Rs 28 8 crores for panchayats

Physical Achievements

As regards physical achievements, statistical data do not throw much significant light on certain crucial aspects of rural economy and life For instance, in the field of agriculture, only absolute figures of quantities of seeds, fertilizers, pesticides, etc, distributed are given These do not yield any meaningful conclusions Thus, an increase in the quantity of seeds distributed would give no precise measure regarding the change in the area brought under improved seeds unless we know about the quantity of improved seeds used by farmers from their own stocks, the quantity obtained from other sources, such as local traders, other cultivators and registered growers and the quantity used for consumption purposes [9] Similarly, for proper evaluation of the efforts of extension, we should know about the area manured, intensity of manuring, crops manured, area benefited from improved methods of cultivation Either the data supplied in regard to these aspects are limited and unreliable or in some case no data are available.

---

[8] *Kurukshetra,* October 1962, p 101

According to the Seventh Evaluation Report,[10] based on reports from 18 blocks, improved agricultural practices were spreading very slowly Shortage of supplies, of seeds and fertilizers and delay in their availability were pointed out to be some of the impediments The extension methods left much to be desired in their effectiveness Demonstration continued to be the main technique and individual contacts were generally not being made. The achievements in other fields were none too gratifying

The Programme Evaluation Organisation has brought out reports on some vital rural programmes during the last 3 years, *e g*, the multiplication and distribution programme for improved seeds, problems of minor irrigation, the soil conservation programme and case studies of pilot projects for the utilisation of rural manpower These reports show that the initial bottlenecks and weaknesses, *e g*, lack of co-ordination between different departments, deficiencies in the technical guidance, weaknesses in the extension methods and the distribution system still persist in varying degrees and the impact is uneven

CO-ORDINATION OF DEVELOPMENTAL ADMINISTRATION

The problem of co-ordination of developmental administration at the district, block and village levels has assumed great significance with the acceptance of the Welfare State as the goal and especially in the community development programme There are two problems at each administrative level Firstly, the work of different technical departments has to be knit together to make it a single co-ordinated programme, and, secondly, there is the problem of guidance and supervision

---

[9] A more detailed discussion of the subject will be found in the Study of the Multiplication and Distribution Programme for Improved Seed (1961), Programme Evaluation Organisation, Planning Commission, Government of India (1962)

[10] Programme Evaluation Organisation Seventh Evaluation Report on the Working of Community Projects and N E S Blocks (1960), p 92

It has been observed that the dual control of specialists concerned with different subjects at the block level by the Block Development Officer and by technical officers at the district level has not been working satisfactorily[11] There is a distinct feeling among the technical officers that the introduction of Block Development Officers is removing them from their contact with the ground staff and that the technical departments are not consulted in the working of the projects It has also happened that the departmental officers have concentrated their attention in non-block areas where they had more direct control on their specialist staff

Another problem is to bring close liaison and co-ordination between the official and the non-official agencies of development. Among the various types of agencies engaged in the task of rural development are the village panchayat, village co-operative and the village school They form the basis of all activities in the village But the main weakness of the present set-up of administration is that these institutions are not inter-linked By linking up the village panchayat closely with development programmes, village leadership can be successfully developed and co-operative activity can also be strengthened The ultimate guarantee of the permanence of the C D movement depends largely on how well these village and intermediate local bodies are established and developed into efficient people's organisations for carrying out their own programmes of welfare

CONCLUSION — AN ASSESSMENT

The movement has been in existence for over ten years and its progress from year to year has been indicated in the annual evaluation reports published by the Planning Commission A study of these reports brings out several interesting points. Within a year of its inception, the community development programme had given rise to considerable optimism among those who had occasion to watch its progress For instance, the First Evaluation Report stated: "Old habits of thoughts and action are being discarded with an unexpected ease. It appears that very soon it is going to be more difficult to check the speed of expansion so that it may not outrun the resources of organisation, than to secure full response to such aids to progress as can be put into the field.[12] Subsequent evaluation reports, however, tend to take a more cautious attitude and the Fourth Report, published in 1957, was critical of several aspects of the movement.

---

[11] P E O . The (Third) Evaluation Report on the Working of Community Projects and N E S Blocks (1956), pp 20-22

> While there has been some progress as regards the use of improved seeds, fertilizers, and improved methods, especially the Japanese method of cultivation and minor irrigation, in other aspects of agricultural development like green manuring, conservation of farmyard manure through use of compost pits, land reclamation, soil conservation, consolidation of holdings, etc., there is much less activity. In the propagation of improved techniques, improved seeds and fertilizers, limitations to progress have come more and more from weaknesses in research and extension methods than from the lack of willingness of the farmer to adopt the improvement suggested.

One of the neglected aspects, both at the research and extension stages, has been agricultural economics and this has told seriously on the progress of farming. The discoveries and practices recommended for adoption are not generally tested for their economic repercussions. It is wrongly supposed that technical superiority is enough, as what matters with the cultivator is the economic superiority, farming being primarily an economic pursuit. In the extension stage this aspect has been completely neglected. The batch of specialists provided at various levels, block, district, State and Centre is conspicuous by the absence of agricultural economists, though a statistical progress assistant is considered necessary. Extension workers are, therefore, not able to bring home to the cultivators effectively the economics of sponsored methods and practices.

Besides, the provision of proper facilities for credit has not progressed sufficiently. The availability of co-operative credit has been confined in most areas to the middle and bigger land holders. Even in areas where the co-operative movement is fairly widespread, not more than 30 to 40 per cent of the rural population has been considered creditworthy.[13] Thus a large proportion of 'non-creditworthy' people remain untouched by the movement

---

[12] P.E.O. Evaluation Report on the First Year's Working of Community Projects, *Op. cit.*, p. 46.

In terms of creating increased opportunity for employment in the non-agricultural sector, the programme has only a limited success New rural industries have benefited no more than 25 out of every 1,000 families in the project areas Its success has been mainly in the field of providing technical guidance and material resources to the artisans These are undoubtedly valuable services which need to be rendered to the rural areas Further to secure more benefit out of the programme for the under-privileged sections of the rural society, the programme should be re-oriented considerably in favour of non-agricultural or rather non-land holding classes, particularly the *Harijans*

The programme for women and children has been one of the weakest links in the development work The reasons for this state of affairs are acute shortage of suitable women workers, absence of proper training facilities, defective psychological approach and non-availability of funds when required In the work of women welfare, the area of operation of the trained personnel as well as the scope of the present activities should be limited so as to make the service more intensive and effective This should be the general policy to be followed when there is not enough trained personnel A satisfactory programme for child welfare limited to a few lines only should be evolved for a few selected areas in the first instance

One of the lessons that emerges from the impact of the programme is that the people have played a part in overcoming several prejudices which are usually associated with village communities. They have not shown lack of enthusiasm for new ideas and programmes or improved methods where rightly approached. Experience has shown that people's response is more a matter of correct official approach to them than any lack of appreciation of the programme on their part The achievements recorded under various heads could not have been possible but for the active participation of the people in the programme

---

[13] Community Projects Administration Summary Record of Third Development Commissioners' Conference on Community Projects at Ootacamund (27-31 May, 1964), Planning Commission, Government of India (1955), p 111

It is necessary to realise that effective lead in the maintenance of programmes and development can come from only village level leadership The creative urge of community action, if it is not canalised in the right direction, is apt to end in frustration This would specially be the case if the neglect of drawing in the smaller man into the extension programme were to continue as at present Local and regional leaders must be steadily encouraged through their own institutions to continue with the programmes of maintenance and development The co-operative movement can provide rural leaders as a link between the rural community and the administration[14]

Although the community development programmes have succeeded in building up new social and extension services, it is, however, equally necessary to maintain these services when the official project comes to a conclusion During the continuance of the project it may not be necessary to insist that the community should pay for all the social services But it is desirable that local self-governing institutions and people's representative bodies should be built up and strengthened so as to take over responsibility for running the services and their proper management and maintenance Their role would be to lead people continuously to a higher standard of life in various directions

The machinery of the national extension service and the local bodies at higher levels should be adjusted as experience grows. It is also necessary to pay special attention to the development of people's institutions and adequate discharge of their functions. Ultimately, the popular institutions should take complete charge of both planning and implementation of development programmes and the Government should see that these institutions are properly equipped with administrative authority, financial resources and technical personnel. Community development and the national extension service are an integral part of development and the people and the people's institutions will need continuous stimulus till the village leaders are able to assume leadership of the whole movement

---

[14] Land Reform Defects in Agrarian Structure as Obstacles to Economic Development, United Nations (1951), p 78

PANCHAYATI RAJ

The association of the people at all the stages of development — planning, administration and execution — constitutes the crux of the Community Development Programme This, however, has been one of the weakest aspects of the programme The Programme Evaluation Organisation had drawn attention to this shortcoming in some of its evaluation reports and suggested the democratisation of the block level bodies The Mehta Team which was appointed to study and report on the Community Projects and N E S observed that "admittedly, one of the least successful aspects of the C D and N E S work is its attempt to evoke popular initiative "[15] They, therefore, recommended democratic decentralisation, later known as *Panchayati Raj* The system, they advocated, envisaged the creation of democratic institutions possessing adequate powers and finance in three tiers at the local level

Before we deal with the recommendations of the Team on this subject and the progress made in implementing them, we may briefly review the history of local self-government in this country

PANCHAYATS

The *Panchayat* is an ancient institution in India This institution enabled India to survive the various cataclysms of her political history and preserved the continuity of her cultural development. This body administered the affairs of the village on its own responsibility or as advisory council to the village headman It administered justice and peace, maintained local order by watch and ward, provided for education, sanitation, public works such as construction and maintenance of buildings, roads, tanks and wells, and all other common amenities, economic and social, of village life, and collected and distributed alms to the poor. For its finances, it relied mostly on the produce from the village common lands Thus, it was self-sufficient and self-supporting. Whatever the form of Government at the centre, the village remained an autonomous unit mainly self-governing The early British administrators have paid ample tribute to these little republics, but the advent of the British rule with its centralised administrative system created conditions for their decay and disappearance

---

[15] Committee on Plan Projects Report of the Team for the Study of Community Projects and National Extension Service, Planning Commission, Government of India (1957), Volume I, p 3

Decentralisation Commission, 1909

The Royal Commission on Decentralisation, 1909, pertinently remarked "The scant success of the efforts hitherto made to introduce a system of rural self-government is largely due to the fact that we have not built from the bottom The foundation of any stable edifice which shall associate the people with administration must be the village, one in which the people are known to one another and have interests which converge on well-organised objects" The Commission recommended that "an attempt should be made to constitute and develop village panchayats for the administration of local affairs" even though "the system can be gradually and tentatively applied" to "make the village a starting point of public life" The Government of India published, in 1915, a resolution and issued to all Provinces, "despite the apathetic reports from most of them," "definite instructions to give full trial to a practical scheme of village panchayats, wherever it could be worked out in co-operation with the people" The Montagu-Chelmsford Report recommended "complete popular control in local bodies" and added that "responsible institutions will not be stably-rooted until they are broad-based" The Act of 1919 which transferred the portfolio of local self-government to ministers was followed by measures in several Provinces to implement this policy

VILLAGE PANCHAYAT LEGISLATION

The legislative Acts passed initially in the different Provinces aimed at the creation of local self-governing bodies in villages The Indian States also were not inactive

Village Panchayats After Independence

The development of Village Panchayats received a great fillip after the attainment of Independence and the adoption of a republican form of constitution in the country The Directive Principles of State Policy (Article 40) lay down that the State shall take steps to organise village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government Apart from this Directive, the phenomenal increase in the developmental activities of the State under planning has also brought out the need for an institution like the village panchayat as the unit of decentralised administration Therefore, great emphasis has been laid in the Five-Year Plans on the constitution of village panchayats as an indispensable part of the administration in rural areas, "as representing the best interests of all sections of the community," and having a "unique status"[16]

In line with this policy, almost all the States took steps to improve the existing legislation, wherever necessary, with a view to promoting quicker development of panchayats as well as entrusting them with greater responsibilities In almost all the States, the necessary legal framework for the establishment of village panchayats had been provided, and most of the States pushed forward vigorously the organisation of these local institutions during the First Plan period

The number of village panchayats went up from 83,093 in 1950-51, the pre-planning year, to 1,23,670 at the end of March 1956[17] (the end of the First Plan), *i e*, by about fifty per cent There was good progress in the establishment of village panchayats in Uttar Pradesh, Punjab, Rajasthan, Kerala, Himachal Pradesh, and the erstwhile States of Madhya Bharat and Saurashtra, where there were panchayats for almost all the villages The pace was somewhat slow in Assam, West Bengal, Orissa, Mysore and Andhra The progress since the end of the First Five-Year Plan is reviewed later[18]

The administration of the panchayats, however, was not very satisfactory According to the finding of the Mehta Team, possibly not more than ten per cent of the total number of panchayats were functioning effectively, roughly one-half was of an average standard and the remaining forty per cent were working unsatisfactorily

PROBLEMS OF REORGANISATION

On a review of the position of the panchayats at the end of the First Five-Year Plan, one general defect noticed was that while a number of them had good leadership, many were handicapped for want of sufficient experience of development activities Some of the factors that have come in the way of greater panchayat participation in rural development are lack of financial resources, existence of factions in villages, the failure of the people to attach due importance to panchayat elections, illiteracy, etc

---

[16] See Report on the First Five-Year Plan, *Op cit*, pp 132-143

[17] Committee on Plan Projects Report of the Team for the Study of Community Projects and National Extension Service, Vol II (1957), p 1

[18] See pp 259-60

The main problem in the reconstitution of village panchayats is the creation of viable units which would require the readjustment of the existing village boundaries. While it is necessary that the units are small enough to have a sense of solidarity, the villages should not be so small that they cannot be provided with essential services for their benefit One way out is that where individual villages are not large enough to serve as units for panchayats, a single panchayat may serve a population of 1,000 to 1,500 Another suggestion is that the village panchayat and the village co-operative should serve identical areas and should establish close contacts with adjoining units

The second problem is that of the functions of the panchayats The First Plan had recommended village production programmes and the development of village lands and resources as their main functions In the Second Plan the functions are classified as administrative and judicial In the administrative sphere, the functions should be (1) civic, (2) development, (3) land management and (4) land reforms The civic functions are already embodied in the legislation of almost all the States The National Development Council accepted the blocks and village organisations as basic units for formulating and carrying out development programmes It has been proposed that panchayats should plan and execute 'local works,' including supply of drinking water, drainage and sanitation, communication, education, etc, in community development areas

The third problem is that of finance The practice of permitting local bodies to levy all taxes which the State Government can levy, and then exploiting these taxes for State purposes takes away the initiative from local bodies It is necessary to revive the old practice of leaving certain well-marked fields of taxation for the exclusive or primary use of local bodies. It is suggested that a proportion of the land revenue in each village, assigned to the panchayat for local development should serve as a nucleus fund The allocation to the village panchayats by the States may be in two parts, a basic proportion of 15 to 20 per cent of the land revenue and an additional grant extending up to 15 per cent of the land revenue on the condition that the panchayat raises an equal amount by taxation or voluntary contributions Lastly, efforts should be made to eliminate the said influence of village factions which seriously hinder the healthy development of panchayats. Unanimous elections may help in this respect Experienced administrators in rural areas consider that most of the evils in the present day village life are the outcome of a long period of enforced unemployment in agriculture If the levels of employment and production rise and villagers are organised co-operatively for an attack on poverty and for raising their standard of living appreciably, the root causes of village factions can be removed

DEMOCRATIC DECENTRALISATION

The Second Plan has emphasised the need for creating a well-organised democratic structure of administration within the district in which the Village Panchayats would be organically linked with popular organisations at a higher level In such a structure, the functions of the popular body should include the entire general administration and development of the area, other than such functions as law and order, administration of justice and certain functions relating to the revenue administration. With a view to examining, among other things, the adequacy of the existing local bodies to take over and perform these functions, the Committee on Plan Projects of the Planning Commission appointed in January, 1957, a Study Team under the leadership of Shri Balvantrai Mehta The Team which submitted its report[19] in November, 1957, stressed the need for decentralisation of responsibility and power within the district above the village level

The Team has recommended a three-tier scheme, *i e*, the establishment of Village Panchayat, *Panchayat Samiti* and *Zila Parishad*, which should be started at the same time and operated simultaneously in the whole district The *Panchayat Samiti* was to be constituted by indirect election from the Village Panchayats with adequate financial resources and a life of five years Its functions should cover almost the entire development work of rural areas and, as such, the Team recommended various resources for being assigned to it The important resources, among others, are (i) a percentage of land revenue collected within the block, which should not be less than 40 per cent of the State's net land revenue, (ii) cess on land revenue, (iii) tax on professions, (iv) rent and profit accruing from property, (v) voluntary public contribution and (vi) Government grants All Central and State funds spent in a block area should invariably be assigned to the *Panchayat Samiti* to be spent by it directly or indirectly. To ensure the necessary co-ordination between the *Panchayat Samitis,* a *Zila Parishad* should be established consisting of the Presidents of *Panchayat Samitis,* members of the State Legislature, Members of Parliament from the area and the district level officers The Chairman of this *Parishad* would be the Collector The *Parishad* would have the power to examine and approve the budgets of the *Panchayat Samitis* It would also generally supervise the activities of the *Panchayat Samiti,* but it would not be invested with any executive functions

---

[19] Report of the Team for the Study of Community Projects and National Extension Service, Vols I, II & III (1957)

The panchayat should be constituted purely by election with the provision to co-opt two women members and one member each from the scheduled castes and scheduled tribes A close link should be established between the *Gram Sevak* (village level worker) and the village panchayat by making him the Development Secretary of the *Gram Panchayat* As far as possible, the village panchayat should be used as an agency for the collection of land revenue and should be paid a commission The panchayat should be entitled to receive from the *Panchayat Samiti* a share up to three-fourth of the net land revenue assigned to the latter The panchayat will be guided by the *Samiti* in all its activities The obligatory functions of the village panchayats should include, among others, provision of water supply, sanitation, lighting, land management and welfare of backward classes

How far these proposals can be successfully implemented in practice is a moot point The Team itself was conscious of this fact and therefore, suggested a "phasing of the process of the creation of the *Panchayat Samitis*"[20] While the Central Government have approved of the general principle of giving responsibility for development to representatives of people within the district, the precise manner in which the principle should be applied was remitted for consideration by the States

PROGRESS

Coverage by Panchayats

With the introduction of *Panchayati Raj* in many States and the prospect of its introduction in the others, village panchayats as the basic units of self-government have come to assume great importance Rapid strides have been made in the organisation of panchayats The progress in this respect is shown by the figures in the following table[21]

COVERAGE BY PANCHAYATS

	As on 30-9-57	As on 31-3-59	As on 31-3-60	As on 31-3-61	As on 31-3-62	As on 31-3-63
1 Number of Panchayats	1 60 369	1 77,633	1 79 906	1,93 527	2 03,049	2,05,452
2 Number of villages covered (thousand)	410	461	483	502	533	520 7
3 Rural population covered (lakh)	19,73	24 20	25,68	27 01	28,29	33,95
4 Percentage of villages covered	75	82	86	89	94	96
5 Percentage of rural population covered	74	82	87	91	95	97
6 Average number of villages per Panchayat	2 5	2 6	2 7	2 6	2 6	2 5
7 Average population per Panchayat	1,299	1,342	1,428	1,396	1,393	1,654

---

[20] Committee on Plan Projects *Op cit*, Vol I, p 21

On March 31, 1963 there were over 205,000 village panchayats in the country covering about 521 thousand villages and a population of nearly 340 million Between 1957 and 1963, the number of panchayats has risen by about 28 per cent and practically the entire country (97 per cent) is now covered by panchayats as against 74 per cent in 1957

Nine of the fifteen States have already been fully covered by panchayats In three others, Bihar, Madras and Maharashtra, the coverage is almost complete Out of the remaining three also the coverage is 94 to 95 per cent in Gujarat and Orissa Thus, West Bengal is the only State where there is a good leeway to be made up But this State will also expand its coverage before long, as the West Bengal Government has drawn up a phased programme of covering the entire State with 20,000 *Gram Panchayats* by October, 1963 Among the Union Territories, Delhi and Himachal Pradesh are fully covered, and preliminaries have been completed for setting up panchayats in Manipur, Tripura and Andaman and Nicobar Islands

Several measures have been taken in the recent past to revitalise the village panchayats and to enable them to accept responsibility for undertaking village development programmes The resources of the panchayats are being augmented and there has been an increasing stress on their undertaking remunerative schemes of community benefit They are also being gradually entrusted with the task of preparing village production programmes in collaboration with the co-operatives There has been a concerted drive to impart training to the *Panches, Sarpanches* and Secretaries

The jurisdiction of the panchayats in terms of the average number of villages and rural population per panchayat continues to vary widely from State to State The number of villages is as high as 19 in Himachal Pradesh and Orissa It varies between 6 and 7 in Assam, Jammu & Kashmir and Bihar, it is over 4 in Madhya Pradesh, Maharashtra, Mysore, Rajasthan and West Bengal and is less than two in the remaining States (Andhra Pradesh, Gujarat, Kerala, Madras, Punjab, Uttar Pradesh and Delhi) In terms of population, Kerala tops the list with over 15,000 people per panchayat followed by Orissa (6,752) and Bihar

(3,956) which are all still on the high side Uttar Pradesh has the smallest population of about 889 per panchayat For the country, as a whole, the average number of villages per panchayat is 2 5 and the average population is about 1,600

The members of the panchayat (*Panches*) are elected through secret ballot in most States Election by show of hands is prevalent in Assam, Jammu & Kashmir, parts of Madhya Pradesh, Uttar Pradesh and Himachal Pradesh The *Sarpanch* and the *Up-Sarpanch* are generally chosen by the *panches* from among themselves Direct election of *Sarpanches* by the *Gaon Sabha* is prescribed only in Assam, Bihar, Punjab, parts of Kerala, Rajasthan, Uttar Pradesh and Himachal Pradesh

The number of members in the panchayat varies from four to 31, but in a majority of States the range is five to 15 Membership in Uttar Pradesh is exceptionally high with a range of 16 to 31, while Bihar has a uniform strength of nine in all panchayats There is a special reservation of seats for scheduled castes and tribes in most States Reservation for women also exists in several States, *e g* , Andhra Pradesh, Assam, Gujarat, Madras, Maharashtra, Mysore, Punjab and Himachal Pradesh

Sources of Income

In most States, the panchayats are entitled to a share either of land revenue directly or of a cess on land revenue, the exceptions being Jammu & Kashmir, Madhya Pradesh and West Bengal in which the panchayats do not have either of these sources of income. In Andhra Pradesh 25 *Paise* and in Rajasthan 20 *Paise* per head of population is being given as share of land revenue to the panchayats Many States which did not hitherto provide for a share of land revenue to the panchayats have done so in their new Acts The share of land revenue varies from 6¼ per cent in Uttar Pradesh to 35 per cent in Mysore while the share of cess varies from 25 to 100 per cent Gujarat and Maharashtra happen to be the most liberal in assigning a substantial part (25 to 30 per cent) of land revenue and the entire land cess to the panchayats The Kerala Panchayat Act, 1960, provides for transferring the entire basic tax to panchayats

Panchayats are also vested with the power of levying a number of compulsory and optional taxes. House-tax, profession tax, tax on property and on vehicles are the most commonly levied compulsory taxes Other sources of income include, apart from Government grants, taxes levied on a number of optional items, and fees realised from regulatory and remunerative enterprises such as cattle pounds, markets, slaughter houses, etc Government waste lands, pisciculture, etc, are other potential sources of income to the village panchayats and have already been transferred to them in many States

HIGHER BODIES

Progress

Progress in enacting legislation for establishing higher bodies and in taking steps to implement them has been fairly rapid *Panchayati Raj* legislation has been enacted in 13 States, *i e*, in all except Jammu & Kashmir and Kerala In Jammu & Kashmir a State-level Committee is studying the working of *Panchayati Raj* in a few nearby States for evolving a system suited to this State In Kerala the bill has been introduced in the legislature Steps to enact the legislation were generally taken promptly Necessary enactments were passed in half a dozen States (excluding Madras where the existing legislation was adopted with some modification) within a year of the endorsement of Mehta Team's recommendations by the National Development Council in November, 1958

In regard to the number of tiers and their location also, eventually all the States fell in line with Mehta Team's recommendations for setting up two-tiers above the village and almost all in also locating them at the Block and District levels

Panchayat Samitis

The Mehta Team had recommended indirect election as the method for constituting *Panchayat Samitis* The pioneer States of Rajasthan and Andhra Pradesh did not accept this recommendation in full and preferred to have ex-officio membership Among the States which promulgated the legislations later, Assam also chose indirect election. Madras stuck to the provision of indirect election in the legislation already existing Some States preferred to have indirect election along with other modes

In Maharashtra, as in Uttar Pradesh, where all local members of *Zila Parishad* are ex-officio members of the *Panchayat Samiti,* there is some provision for indirect election also Similarly, in Orissa also, while all *Sarpanches* are ex-officio members, one member is also to be elected by each Panchayat In some States, *viz*, Madhya Pradesh, Mysore and Punjab, there is provision for direct election

The *Panchayat Samitis* have been entrusted with development functions and made responsible for the implementation of the community development programme The *Samitis* have been vested with specific executive responsibilities in fields like primary education, health and sanitation and communications They also exercise supervision over the panchayats and have the right to scrutinise the budgets of the panchayats and offer suggestions The *Samitis* function through Standing Committees which have been set up for specified aspects of its work, like production programmes, social welfare, weaker sections of the community, finances, etc

The finances of the *Panchayat Samitis* consist generally of funds drawn from the Block budget, and those transferred to them by the State Government, share from the land revenue and Government grants The *Panchayat Samitis* in some States have also been empowered to levy certain taxes In Gujarat, the *Samiti* can, subject to certain limits, levy all the taxes which a *Gram Panchayat* is empowered to levy and can also enhance stamp duty by 15 per cent.

In Maharashtra, the middle tier — the *Panchayat Samiti* — is not a strong institution In this State the *Panchayat Samiti* has been empowered to prepare "an overall plan for works and development schemes to be undertaken in the Block for enabling the *Zila Parishad* to prepare its development plans" Besides, the *Samiti* may also perform such of the functions of the *Zila Parishad* within the block as may be delegated to it The *Samiti* in Maharashtra is dependent essentially on grants from the State Government received through the *Zila Parishad* The *Panchayat Samiti* in contrast to the *Zila Parishad* is, statutorily, not even a body corporate, and no provisions regarding perpetual succession, common seal, right to sue and to be sued against in relation to the *Samiti* have been made in the statute

Zila Parishad

Members of Parliament, M L As and M L Cs are members with the right to vote and hold office in the *Zila Parishads* in Andhra Pradesh, Assam, Rajasthan, Bihar, Madras, Madhya Pradesh, Uttar Pradesh and West Bengal. They do not have the right to vote in Gujarat, Orissa and Punjab The District Collector is a member of the *Zila Parishad* in Andhra Pradesh, Gujarat, Madras, Mysore, Orissa, Punjab and Rajasthan. He is the ex-officio Chairman of *Zila Parishad* in Madras and Mysore and of all the Standing Committees in Andhra Pradesh

The functions and powers of *Zila Parishad* vary naturally from State to State In most States the *Zila Parishad* is a co-ordinating body which exercises general supervision over the working of the *Panchayat Samitis* and advises the Government on the implementation of the development schemes In Andhra Pradesh the *Zila Parishad* has specific executive functions in respect of secondary education — vocational and industrial schools, and also discharges the functions of the *Panchayat Samitis* in respect of non-*samiti* blocks In Maharashtra, the *Zila Parishad* is the strongest of the *Panchayati Raj* bodies and is vested with executive functions in various fields, including planning and development and advising the State Government In Gujarat and Uttar Pradesh also, the *Zila Parishad* is vested with administrative functions in various fields The *Zila Parishads* exercise powers of supervision and guidance over the *Samitis* in most States and in some are empowered to supervise the working of the panchayat as well

The finances of the *Zila Parishad* mostly consist of the funds received from the State Government in the form of grants, etc, and also the share of the land cess and other local cesses and taxes that are assigned to them Besides, funds earmarked for specific schemes which are entrusted as agency functions to the *Panchayati Raj* bodies are also available In some States, the *Parishads* are empowered to levy certain taxes, or to enhance, subject to certain limits, the taxes already being levied by the panchayat and the *Panchayat Samitis*

The *Zila Parishads* in all the States are empowered to constitute Standing Committees and function through them. The staff, particularly of the Development Departments, at the district level, is made responsible to the *Zila Parishad* for assisting the *Parishad* in the planning and implementation of development programmes and also to provide technical supervision and guidance to the *Samiti* and panchayats, which may undertake specified developmental programmes

CONCLUSION

Panchayati Raj is full of momentous possibilities for development by democratic methods The Mehta Team drew the attention of the Government of India to the need for the reinvigoration of local self-government The Government of India accepted this policy and the State Governments have enacted necessary legislation translating this policy into action The actual fulfilment of the aim with which these measures have been taken will depend on the soundness of the legislation, the sincerity of the officials in implementing them and above all, the capacity and will of the people to discharge the responsibilities enjoined upon them in a conscientious and public-spirited manner

Steps have been taken to provide training, mainly of the non-institutional type, to certain important categories of non-officials, *e g*, *Gram Sahayaks,* non-official members of Block Development Committees and *Panchayat Samitis,* Panchayat Secretaries and school teachers Study camps, seminars and tours have been the other forms in which training has been provided to the officials and non-officials A number of *Panchayati Raj* training centres have been opened A Central Institute of *Panchayati Raj* has also been started to train principals and instructors of *Panchayati Raj* Training Centres But, generally, these programmes have been conducted in a formal and hasty manner and the period of training is not long enough Much greater attention needs to be given to this aspect The village panchayats should function as institutions of local development and should be entrusted with all works of development within their jurisdiction It is necessary that they should be assisted by efficient service agencies The functions entrusted to them are onerous, and it will take time for them to deal with all of them satisfactorily They have to gain experience and they will need assistance and supervision But an effective local democracy, functioning on the basis of local initiative and leadership is vital for the broad-based development effort which the country is seeking to foster

PART III

CHAPTER XI

AGRICULTURAL PRICES AND PRICE POLICY

A study of farm prices is important on several scores Prices should not be so low that they constitute a disincentive to augment production through use of improved technology and the investment needed for the purpose On the other hand, they should not be so high that they cause distress to consumers and push up costs in agriculture-based industries Apart from the level of prices, their stability is also an important factor in the making of economic decisions in agriculture as well as in the rest of the economy Farm prices tend to fluctuate more widely than those of other commodities mainly due to inelasticities of demand and supply Wide price fluctuations give rise to uncertainty and inhibit investments in agriculture Two major policies of the government regarding the farm prices have been, therefore, to ensure to the farmers remunerative prices for their products and limit fluctuations In this Chapter, we discuss the factual and the policy aspects of agricultural prices

TRENDS IN AGRICULTURAL PRICES

An idea of the trend in prices of important agricultural commodities can be obtained from Table I which gives the index numbers of their wholesale prices in recent period These indices are constructed on the basis of annual averages of their monthly prices with 1952-53 as the base year

One major observation that follows from Table 1 is that prices of almost all important foodgrains—cereals, pulses, groundnut oil, sugar and *gur*—have fluctuated widely, declining for the first three years (1954-56) and rising thereafter, though at an uneven pace Another important observation is that prices of all principal grains except jowar rose less rapidly than those of the group of 'food articles' as a whole As far as the relative prices in this group are concerned, prices of wheat and gram, with the exception of 1958-59 in case of wheat and 1963-64 in case of gram, remained below the base level of 1952-53 Prices

TABLE I

INDEX NUMBERS OF WHOLESALE PRICES OF IMPORTANT AGRICULTURAL COMMODITIES

(1952-53=100)

Year	Cereals					Pulses								
	Rice	Wheat	Jowar	Bajra	Cereals	Gram	Other pulses	Ground-nut Oil	Sugar	*Gur*	All Food Articles	Cotton	Ground-nut	Jute
1953-54	100	93	100	103	98	89	93	120	99	141	100	104	127	98
1954-55	82	75	77	78	80	54	62	77	104	122	82	102	82	112
1955-56	78	72	67	84	76	49	69	74	94	88	95	97	79	117
1956-57	97	88	123	122	96	71	87	104	95	100	102	111	111	126
1957-58	105	88	114	126	101	68	91	105	110	107	103	106	108	133
1958-59	105	105	105	126	107	96	108	107	121	131	113	99	117	118
1959-60	105	96	119	126	104	75	104	118	124	161	116	106	131	125
1960-61	108	90	122	130	104	87	96	138	127	136	118	112	146	210
1961-62	105	91	112	132	102	83	97	144	125	116	118	109	155	178
1962-63	111	90	130	124	106	89	114	129	131	153	123	113	140	147
1963-64	125	99	116	132	116	100	124	131	139	218	141	119	144	148

Source Office of the Economic Adviser to the Government of India of rice and pulses other than gram increased but the increase was less relative to that of the food articles as a whole Prices of inferior cereals like jowar advanced more rapidly and that of bajri as rapidly as the price of all food articles But with regard to these inferior cereals it can be said that the decline in their prices was also steeper during 1953-56 when prices of all commodities in the food articles group declined Thus their prices fluctuated more widely compared to others

Prices of food articles other than foodgrains, *i e*, edible oil, sugar and *gur* recorded a much bigger increase Much of the rise in the prices of 'food articles' group therefore can be attributed to these three articles and jowar and bajra

Prices of commercial crops—cotton, groundnut, jute—increased along with those of foodgrains and evinced almost a similar pattern They also declined during 1952-56 and rose during 1956-64 On the whole, the increase in the prices of commercial crops was greater than that of food articles during the period ending 1963-64 Among the cash crops, jute prices showed the largest increase as well as variation Cotton prices, on the other hand, had only a modest increase and they moved also within a narrow range Groundnut prices, after a recovery from low levels attained in 1955-56, showed more or less a continuous and steep increase and attained the index level little lower than that of jute prices

It will be seen from Table I that the increase in prices, especially of cereals and pulses, during 1963-64 was very steep and rather unusual compared to the rate of increase in earlier years The 1963 64 index of wholesale prices of cereals showed an increase of as much as 18 per cent compared to 1962-63

As for the individual foodgrains, the price index in August 1964, compared to the position during corresponding month of the previous year, was higher by 14 per cent in case of rice, by 38 per cent in case of wheat, by 72 per cent in case of jowar and by 33 per cent in case of bajra The upward trend in prices has been maintained in almost all the commodities in the cereal group Similar data on prices of gram and other pulses show an increase of 68 per cent and 39 per cent respectively in August

As against this, the increase in prices of non-foodgrains and commercial crops has been very moderate during the same period. In this group, groundnut recorded highest increase of 14 per cent whereas *gur* declined by 3 per cent. The prices of sugar, cotton and jute increased by 12 per cent, 12 per cent and 8 per cent respectively.

AGRICULTURAL AND NON-AGRICULTURAL PRICES

The trend in wholesale prices of different commodity groups for the period 1952-53 to 1963-64 may be observed now to assess the relative positions of agricultural and non-agricultural prices. The index numbers of wholesale prices of 3 commodity groups and for all commodities together are given in Table II.

TABLE II

INDEX NUMBERS OF WHOLESALE PRICES—BY GROUPS

(1952-53=100)

Year	Food Articles	Industrial Raw Materials	Manufactures	All Commodities
Weights	504	155	249	1000
1953-54	106.7	109.7	98.9	104.6
1954-55	94.6	101.9	100.6	97.4
1955-56	86.6	99.0	99.7	92.5
1956-57	102.3	116.0	106.3	105.3
1957-58	106.4	116.5	108.1	108.4
1958-59	115.2	115.6	108.4	112.9
1959-60	119.0	123.7	111.7	117.1
1960-61	120.0	145.4	123.9	124.9
1961-62	120.1	142.6	126.6	125.1
1962-63	126.1	136.5	128.8	127.9
1963-64	136.8	139.5	131.1	135.3

Source: Office of the Economic Adviser to the Government of India.

It is evident from Table II that the price index of 'food articles' and the composite index of 'all commodities' have moved parallel However, it has not always influenced the level of composite index During the period 1958-59 to 1960-61 prices of 'food articles' increased a little less rapidly than those of 'all commodities' From 1961-62, however, the prices of 'food articles' have increased more rapidly compared to all the other groups, thereby influencing the composite index of 'all commodities' to a significant extent The group of 'industrial raw materials' which consists partly of cash crops such as cotton, jute, oilseeds and partly of minerals such as iron ore, coal, minerals, etc, has shown greater rise in prices than that of 'all commodities' particularly during 1958-59 to 1960-61 The prices of 'industrial raw materials' have been erratic, showing sudden and steep increases at times followed by mild declines. On the whole, their price level has generally ruled higher than that of 'food articles'

The prices of 'manufactures' rose steadily and did not register a decline during the entire decade The level attained by them has oscillated, sometimes being slightly above that of 'all commodities' and of 'food articles' and sometimes below

If we recombine the above four groups of commodities into two, (i) agricultural commodities and (ii) non-agricultural commodities for the period 1952 to 1961 for which the data are readily available, we get the results as shown in Table III.

On the basis of the ratio between agricultural and non-agricultural commodities, it can be said that during the period of 8 years from 1954 to 1961, the ratio of agricultural prices to non-agricultural prices did not rise far above 100 any time For the earlier three years it was below 100, during the second half of the period, it did not fall below 100 except during 1961 Since the year 1952-53—the base year—was favourable to farm prices, the above trends would imply that during the 'fifties, farm prices have enjoyed, for most part, a relatively favourable position However, this advantage was mostly confined to the commercial crops It was seen earlier, that even during the second half of the period (especially between 1958-59 and 1960-61), when the cereal prices were rising consistently, their rise was less rapid than the rise in prices of industrial raw materials and

TABLE III

INDEX NUMBERS OF WHOLESALE PRICES OF AGRICULTURAL AND NON-AGRICULTURAL COMMODITIES

(1952-53=100)

Year	Agricultural Commodities*	Non-Agricultural Commodities	Ratio of Agricultural Commodities to Non-Agricultural Commodities
	Weights 680	320	
1	2	3	4
1950	113	99	114
1951	122	117	104
1952	102	104	98
1953	107	99	108
1954	99	100	99
1955	88	99	87
1956	102	105	97
1957	109	108	101
1958	112	109	102
1959	118	111	106
1960	124	121	102
1961	126	127	95

Source Economic Survey of Indian Agriculture 1960-61, Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India (1962), p 56

*The Agricultural Commodities index includes rice, wheat, jowar, bajra, gram, *dal*, *arhar*, tea, coffee, cotton raw, jute raw, groundnut, linseed, rapeseed, cotton seed, gingelly seed, copra, rubber, spices and condiments, cashewnut, betelnuts and tobacco

commercial crops in agriculture So this favourable position of farm prices was largely due to the prices of non-food commodities which are included in the overall index of agricultural commodities

FACTORS INFLUENCING PRICES

Rapid growth of population and rising income levels are two important factors that influence demand for food Food being a prime necessity of life, a rise in population leads directly to an increased demand for it If the rise in per capita income is sluggish the pressure exerted on the demand for food would be less acute But if money incomes also rise along with the population, as they did during the last decade, the pressure becomes more acute This is due to high income elasticity of demand for food in India as well as the fact that a large proportion of total expenditure is devoted to food The income elasticity of demand for food is believed to be nearer one in underdeveloped countries The empirical results indicate this to be in the range of 0 6 to 0 7 for India The proportion of total expenditure incurred on food is about 60 to 80 per cent in rural areas and about 50 to 60 per cent in urban areas In under developed countries, in the early stages of development changes in the structure of demand from foodgrains to animal products or fruits and vegetables are not significant. But with rising income levels, a shift in demand from inferior grains like millets to superior ones like rice and wheat does take place Even among the latter, preference is shown for superior varieties This was discernible especially during the last decade when money incomes increased rapidly due to development expenditures under the Plans Such a change in the demand structure exerts pressure on supplies since production of superior grains involves more effort and more material expenditure per unit of output Both these factors—a general rise in the level of demand for food and changes in the structure of demand for it—therefore, lead to a rise in relative prices of food

With the rise in the demand for the products of agriculture-based industries such as textiles, vegetable oils, the demand for non-food crops has also increased significantly Due to the overall scarcity of inputs for agricultural production, production of these crops can be increased largely by diverting area under food crops to non-food crops In the last decade this diversion has taken place to a significant extent For example, in Saurashtra about 80 per cent of the cropped area is now devoted to groundnuts The total supply of farm products thus does not increase significantly in the short-run

The reasons for the slow and inadequate increase in agricultural production are many The major reason, however is that production in traditional agriculture depends heavily on climatic factors and land The abundant supply of labour without the adequate supply of co-operating factors would be of little help for raising production Other production resources are not only limited in their supply, but when combined with given amount of land bring about less than proportionate returns Hence, unless there is transformation of techniques of production the production level cannot be raised rapidly And the process of transformation of techniques is itself slow since it involves dealing with complex social and economic factors

The production of food and agricultural produce in general did increase during the first two Five-Year Plans The annual rate of increase[1] between the period 1949-50 to 1961-62 was 3 6 per cent for foodgrains, 4 19 per cent for non-foodgrains and 3 80 per cent for all crops This rate was greater than that of the increase in population during the same period which was 2 1 per cent But the increase in farm production was not uniform during the period During the first two years of the Third Five-Year Plan, it has remained more or less stagnant[2] Though unfavourable weather was one of the main and immediate reason for this during the recent period, the basic fact remains that unless factors inherent in traditional agriculture that cause this stagnation are removed, increases in farm production would not be rapid and of permanent character

Increasing production in most cases would lead to a corresponding increase in the marketed supplies. But this process may be impeded by other developments The Foodgrains Enquiry Committee[3] that analysed the causes of decline in market arrivals of foodgrains during 1955-56 and 1956-57 refers to three general factors (a) the producers consumed more than before, (b) a tendency for holding grains for a longer period than usual developed in anticipation of further rise in prices and (c) the producers' need for cash to meet necessary commitments could be fulfilled with lower sales. The above reasons account for the situation in which more produce is marketed when prices fall and less is marketed when prices rise This happens particularly when for most of the farmers the surplus is at best a marginal one, there is a high income elasticity of demand for foodgrains and the income effect of a change in price on consumption tends to be stronger than the substitution effect

---

[1] The increase has been calculated by fitting regression equations to three-year moving averages of the production index numbers *Vide* Agricultural Price Policy in India, Ministry of Food and Agriculture, Government of India (1963), (Mimeographed), pp 37-38

[2] The Third Plan Mid-term Appraisal, Planning Commission, Government of India (1963), pp 69-70

[3] Report of the Foodgrains Enquiry Committee, Ministry of Food and Agriculture (Department of Food), Government of India (1957), p 45

Besides, when prices are rising under an inflationary pressure, it generates a general tendency to prefer payment in goods rather than money For example, the agricultural labourers may prefer payment of wages in kind rather than in cash and during busy season when demand for agricultural labourers is at the peak level, *e g*, during harvesting or transplanting, the farmer-employer may be compelled to grant this demand The marketed supplies of farm products may be adversely affected somewhat by this tendency as well

A combination of above factors both on demand and on supply side, seem to have raised prices of food and other farm products relative to prices of other goods during the recent period for which the price data have been examined Keeping these factors in view and experience of price management during the World War II and the post-war period, various measures to contain disproportionate price rises were evolved during the recent decade The trends in prices that we have observed were thus subject to the economic factors, on one hand, and the Government regulations, on the other The observed trends are thus the combined results of these two

AGRICULTURAL PRICE POLICY AND MEASURES

Foodgrains

With the advent of planning in the 'fifties, the agricultural price policy became an integral part of planning for development The basic considerations for the food policy were stated in the First Five-Year Plan "Foodgrains occupy a pivotal place in the price structure, and if this latter has to be safeguarded, as it must be, the prices of foodgrains must be held stable at levels within the reach of the poorer sections of the community Even a moderate short fall in the supply of foodgrains is likely, under Indian conditions, to raise their prices more than proportionately, and a rise in food prices leads directly to a rise in the cost of living and in production costs, all-round" So far as the interests of farmer as producer are concerned, the Plan says "This does not, of course, mean that the producer of foodgrains should not get a reasonable return On economic as well as social grounds, it is vital that he does But, the real return that he gets does not depend only upon the prices he obtains for this produce, it depends as much upon the prices he in turn has to pay for what he buys If an increase in food prices raises these latter, he may be no better off in the end and may even be worse off" On the whole, the First Plan stressed the need for controlling the food prices and maintenance of certain maxima It also referred to the need to prevent prices from falling below remunerative levels. However, according to the Plan,[4] "In the last analysis what limits the income of the primary producer is low productivity To increase this latter, what is needed is a programme of public investment which will give him the water, the power, the seeds and the manures he needs"

The period between 1951 and 1957—*i e*, the period during the First Five-Year Plan and first half of the Second Five-Year Plan—saw successive changes in Government policy from complete control to complete decontrol and back to the partial controls During the post-war and Korean boom periods, inflationary forces had gathered momentum and hence strict controls such as rationing, ban on inter-State movement of foodgrains, etc, were imposed However, the supply situation regarding foodgrains improved during the initial period of the First Five-Year Plan and it seemed that the economy as such had been restored to a measure of equilibrium The move towards decontrol that had started in June 1952 with the abandonment of statutory rationing in Madras was further strengthened The prices began to show downward trend and the balance was now swung in favour of complete decontrol The Government also announced support prices for wheat, jowar, maize, rice and gram However, no steps were taken during this period to build up buffer stocks This was a serious omission but at that time adequate storage facilities with the Government did not exist and the improvement in food situation was considered to be semi-permanent However, this period of missed opportunity revealed one thing—that the Government price policy was still one of expediency rather than of a purposeful long range plan The declining trend of prices, as seen earlier, lasted only upto the middle of 1955 after which it was reversed

---

[4] Report on the First Five-Year Plan, Planning Commission, Government of India (1952), p 173

In view of rising prices, the Government of India set up in 1957 the Foodgrains Enquiry Committee under the chairmanship of Shri Asoka Mehta Its terms of reference were (i) to review the food situation and examine the causes of rising trend of food prices since the middle of 1955, (ii) to assess the likely trends in demand and availability of foodgrains over the next few years and to make recommendations to ensure a level of prices which would provide the necessary incentive to the producer with due regard to the interest of the consumer and maintenance of a reasonable cost structure in the country The Committee came to the following conclusion "The solution to the food problem, in our view, lies between complete free trade and full control Food controls involve regulation of consumption production and trade Comprehensive controls of the war-time type extend to all these activities But in less difficult situations, control of trading activity, supplemented by some regulations of consumption and directioning of production should be adequate and is, indeed, likely to give better results as a whole than full-scale control of distribution as well as supply Such a *via media* will no doubt, involve an appreciable degree of control, but that should be largely of a counter-vailing or regulating rather than restrictive character"[5] According to the Committee, the instability of food prices was expected to remain with us for some time to come Hence it suggested that the State should assume the role of a "dominant trader in the economy" in order to influence the demand for and supply of foodgrains through trade operations spread over time and space This could be done by (i) building up stocks in good years which can be drawn upon in bad years, (ii) purchasing stocks during harvest season which can be utilised during lean season and (iii) acquiring stocks in surplus States for disposal in deficit States. This was the essence of the policy of State trading in foodgrains. Its other specific recommendations were (i) formation of Foodgrains Stabilisation Organisation, (ii) licensing of wholesale dealers, (iii) continuation of marketing zones that the Government had established earlier in 1957, (iv) fixation of minimum and maximum prices, (v) maintenance of a reserve stock as distinct from a buffer stock for periods of real crisis and (vi) import agreements The Foodgrains Stabilisation Organisation was to be organised with branches and agencies of its own in all important markets for undertaking buffer stock operations, that is, purchase and sale of foodgrains on a substantial scale with a view to controlling the prices Policy making and operational functions of this organisation were to be divided into two distinct parts The Government accepted many of these recommendations especially pertaining to regulatory measures But instead of setting up a separate Foodgrains Stabilisation Organisation, the Government decided to utilise the purchase organisation in the Department of Food to ensure adequate and continuous contact with the market

---

[5] Report of the Foodgrains Enquiry Committee, *Op cit*, p 77

The price policy as enunciated in the Third Five-Year Plan which was framed in 1961 embodies majority of the recommendations of the Foodgrains Enquiry Committee The Plan says[6] "The farmer should have the necessary incentive to make these investments (investments in fertilizers, adoption of improved practices, etc) and to put in a larger effort. A policy designed to prevent sharp fluctuations in prices and to guarantee a certain minimum level is essential in the interest of increased production It is important also that the appropriate measures or policies should be enunciated and announced well in time to ensure that the benefit accrues to the farmer The other objective, no less essential, is to safeguard the interests of the consumer, and, it is particularly necessary to ensure that the prices of essential commodities such as foodgrains do not rise excessively The key to stabilisation is the building up of buffer stocks and operating on them through continuous purchase and sales over a wide front Since prices vary between different parts of the country, there may be purchasing operations in some parts and selling operations in others ” On operational side the Plan says “A network of co-operative and governmental agencies close to the farmer, licensing and regulation of wholesale trade, extension of State trading in suitable directions and a considerable sharing by Government and co-operatives in distribution arrangements at retail stage are essential for the success of purchase and sale operations for stabilising prices and correcting seasonal and regional variations ”

---

[6] Report on the Third Five-Year Plan, Planning Commission, Government of India (1961), pp 130-131

Several measures have been taken to implement this price policy The chief measures taken so far are ban on exports of cereals from India, arrangements for imports from abroad under special terms, *e g*, PL 480, internal procurement of rice and wheat, distribution of imported and internally procured grains at reasonable prices, demarcation of marketing zones (demarcation is flexible depending on the circumstances), regulation of forward trading, licensing of wholesale dealers, restrictions on bank advances against the hypothecation of foodgrains, fixation of minimum prices, imposition of floor and ceiling prices, etc Of these, two important measures—State trading in foodgrains and marketing zones—may be discussed in detail

State Trading in Foodgrains

A provisional scheme for giving effect to the Foodgrains Enquiry Committee’s suggestion on State trading was announced by the Government in April 1959 It was announced that State trading would be confined to two main commodities—wheat and rice—and the whole operation would be conducted on no-profit-no-loss basis The Government decided to set up an agency for making direct purchases from the producers at controlled prices which would be generally uniform for the whole State or the region. This decision was taken with a view to assure a minimum price to the producers The wholesale traders and millers in wheat and rice were licensed throughout the country They were allowed to make purchases on their own but were required to pay to the farmer the minimum price fixed by the Government One of the main conditions of the licence for wholesale traders was to enable the Government to impose a levy on wholesale traders and on rice mills to obtain such proportions of the quantities purchased by them as may be allowed to sell the remaining stock to the retailers at prices not exceeding the controlled prices The retail transactions were not brought within the orbit of State control as it would have involved large scale intervention by the State and imposed a severe administrative burden on it However, it was decided to influence the retail prices by increasing the number of fair price shops and speeding up the formation of consumers' co-operative societies On the whole, it was implied that existing market arrangements would not be disturbed and the changes were visualised within the existing framework.

Accordingly this scheme was put into practice and the procurement operations in rice and wheat which were confined mostly to surplus areas in the preceding seasons were extended to deficit areas too as recommended by the Foodgrains Enquiry Committee However, the scheme ran into difficulties[7] as it was put into practice in a haphazard way—without taking into cognizance the economic forces In Uttar Pradesh, for example, the procurement prices for wheat were fixed much lower than those dictated by the forces of demand and supply With the result, market arrivals of foodgrains in some States were low despite large output Besides, the extent of compulsory levy imposed on wholesale traders was exorbitant in some States For example, in U P compulsory levy of 50 per cent of the stock and subsequent purchases was imposed on wholesale dealers as well as on *Kacha Arhatiyas* (commission agents of the producers) This broke the traditional link between the producer and the market

In Punjab, on the other hand, the Government only assumed the right of prior purchases of the whole or any part of market arrivals at prices arrived at the normal process of bidding in the market The working of the scheme was, therefore, quite successful and did not result in dislocation of normal functioning of the market

However, on the whole, the experience of State trading was not very happy In deficit areas, it pushed up the prices The buffer stocks can be built up adequately and fruitfully in the years when prices are falling The earlier years up to 1955 provided that opportunity but it was missed The principle of State trading began to be accepted rather very late, though this was not altogether a new concept This measure has been successfully attempted in many countries and even in our country the suggestion of State trading was put forward by the "Prices Sub-Committee of the Policy Committee on Agriculture, Forestry and Fisheries" as long back as in 1944[8] In periods of rising prices, a tendency to withhold supplies in the markets arises And this price consciousness of the producer has been buttressed further during these years with his capacity to withhold his produce. High prices in the past have left enough cash income with some farmers to meet their immediate needs They are, therefore, not under the compelling necessity to part with their harvest immediately Moreover, due to Plan programmes the producers have better access to cash resources including co-operative credit, government loans, grants, etc, the extent of which has been steadily increasing All these factors contributed to failure of State trading in 1959 The procurements were, therefore, given up in the deficit areas completely and in other areas they were made less ambitious

---

[7] Refer to the Report on an Enquiry into the Pace and Pattern of Market Arrivals of Foodgrains — 1958-59 Season, Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India (1959)

The Marketing Zones

The marketing zones were introduced for the first time in the year 1957, when the foodgrains price situation began to deteriorate During this period three wheat zones and one rice zone were created Composition of these zones as well as commodities for which movements were restricted have changed from time to time depending upon the general supply situation and the price trends For example, all zonal restrictions on movement of wheat and wheat products were removed from April, 1961 but are reimposed from July, 1964 On the other hand, the rice zones which were in existence till recently have been abolished

The idea behind dividing the country into different zones was to match deficit States with surplus States so that they can be converted into self-sufficient units The movement of cereals within the zone is permitted[9] but movement outside the zone is prohibited except under special permit This policy, besides achieving regional self-sufficiency, is expected to conserve supplies for local use, facilitate procurement of foodgrains by the State and check speculative rise in prices and profiteering This would also minimise the demand on government supplies and would eliminate cross movements of particular cereals

Commenting on the zonal system as it was prevalent during 1957 the Foodgrains Enquiry Committee observed, “ these zones by themselves play a useful role especially during the transition period between free trade and physical controls. But, if zones are introduced in a haphazard manner and without proper attention being paid to the effect that they are likely to produce on the consumers outside the zones, there may be considerable dislocation and distress in the initial period If the zones are changed too often, that upsets the normal trade pattern and creates considerable difficulties all-around Prior arrangements for adequate supplies for deficit areas outside the zones should be invariably made before any scheme for zoning is implemented Once a zone is formed it should be maintained on a relatively long-term basis so that the trade patterns are not frequently disturbed ”[10]

It is very difficult to assess the impact of marketing zones on marketing structure and therefore on price structure with the data available The marketing structure as is in existence in the country is evolved on the basis of consumers' preferences for certain varieties of cereals and their availability These traditionally established channels get disturbed no sooner restrictions on movements of foodgrains are imposed This is especially so between two different zones where movement is prohibited For example, in the case of Southern Rice Zone where traditionally surplus Andhra rice were being exported to Maharashtra and Gujarat, the zonal restrictions cut off this established normal trade channel and imports of Andhra rice to Bombay declined from 139,000 tons in 1955-56 to only 7,000 tons in

---

[9] In practice, however, restrictions have been imposed in some cases on movement of commodity within the zone too

[10] Report of the Foodgrains Enquiry Committee, *Op cit*, p 99

1961-62[11] New markets for Andhra surplus had to be sought in Kerala and with this new facilities had to be created for credit requirements, remittances, etc, which are essential for the development of trade

Besides disturbing the existing marketing structure, the system of zones contributed greatly to the price variations among the markets A study of rice prices for the period 1956-62 reveals how the structure of geographical prices got distorted The average prices for each market for the period 1956-62 ranged from Rs 35 30 per quintal at Imphal to Rs 62 63 at Chiplun in Maharashtra Even neighbouring markets showed larger differences in prices In Sambalpur, the average price was Rs 43 92 a quintal In Jamshedpur, 314 kilometers away by rail, the price was Rs 60 22 The difference in prices between the two centres was Rs 16 30 whereas the rate for rail transport of rice was only Rs 1 30 a quintal Similarly, between Nandgarh and Chiplun prices differed by Rs 13 51 a quintal, between Raipur and Nagpur by Rs 11 60 and between Balasore and Contai by Rs 10 93 There may be other reasons for these price variations, *e g*, difference in variety There are about four thousand varieties of rice in India But these would not cause so large variations between geographically adjacent markets The largest single cause for the wide variations in prices of rice during 1956-62 therefore had been the system of rice zones

For more recent period—1963-64—some information is available regarding prices of wheat and rice in different zones In the rice zone comprising Southern States of Andhra Pradesh, Madras, Kerala the increase in price of rice in 1964 over 1963 was 11 per cent, 23 per cent, and 33 per cent respectively This shows that in this zone where deficit and surplus States were matched large price variations could not be checked and even in the surplus region there was increase in the price level Similarly a distorted picture regarding wheat prices exists. The increase in price of wheat during the period was 18 per cent in Punjab and 16 per cent in Delhi on one hand and 47 to 56 per cent in

---

[11] V M Jakhade, "Foodgrains Marketing Zones in India," paper submitted to the Seminar on "Marketing of Agricultural Commodities," held by the Indian Society of Agricultural Economics in November, 1963 See Report (1965), p 46

Uttar Pradesh, 46 to 59 per cent in Bombay, 41 per cent in Rajasthan and 24 per cent in Gujarat on the other Regional price variations have increased during the functioning of various marketing zones The prices in surplus States, though they recorded a decrease in the initial period with the introduction of zonal restrictions, have tended to increase in the recent period and no evening out of the price spread within the States in the zone concerned is taking place

Measures for Non-Foodgrains

The measures for regulating or controlling prices of non-food commodities like cotton, jute, oilseeds, sugar, etc, have varied from time to time depending upon prevailing supply situation. In times of rising prices, restrictions are imposed on forward trading and exports, imports are liberalised and selective credit controls are effected On the other hand, in times of downward trend in prices imports are reduced, export quotas are liberalised, etc.

For example, in case of oilseeds there are no statutory price controls but the prices are influenced in desired directions by means of changes in foreign trade policies, regulation of forward trading (this has been totally banned recently), control on bank advances against hypothecation of stock of these commodities, etc During the last decade oilseed prices, as seen earlier, have ruled high and hence export quotas have been restricted However, in view of the fact that oilseeds are foreign exchange earners, these restrictions are not of stringent nature

In case of cotton, both statutory minimum and maximum prices have been enforced since 1943 but here too the main mechanism of control has been through export-import policies, control over movement and distribution, regulation of forward trading, etc

Jute is another important commodity in case of which definite steps are taken for stabilising prices at a level that would be economic to the grower as well as the jute industry From 1959-60 to 1960-61 jute prices tended to move very high and hence imports were stepped up, and restrictions were imposed on forward transactions When jute price declined in 1964, a Buffer Stock Agency was set up to undertake purchase operations

On the whole, it can be observed that these regulations are of a very broad nature and compared to foodgrains, prices of non-foodgrains commodities are given more free play It is because of this that relative price variability in case of these commodities is higher compared to that of foodgrains

Recent Measures Incentive Prices and Food Corporation of India

The Government policy on prices of foodgrains has been on one hand to assure the producer of a reasonable return and on the other to safeguard the interests of the consumer However, few concrete steps were taken for implementation of the first objective Support prices were declared from time to time, but they were essentially the basis for compulsory procurement, as a part of the policy of "State Trading," and were about 20 per cent below the market prices prevailing during the period

In view of the almost stagnant rate of growth of agricultural production and consistently rising trend in food prices during the first three years of the Third Five-Year Plan, the problem has once again engaged the attention of the Government It has been decided to take several measures specifically directed towards influencing the production and distribution of foodgrains The Government has decided to announce guaranteed minimum prices for rice and wheat, well in advance of the sowing season, so as to influence the investment decisions of the farmers and minimise the impact of uncertainty regarding prices Minimum prices for rice and wheat have been already announced for the 1964 65 agricultural season

One of the major instruments for implementing this price policy will be the recently established (January, 1965) Food Corporation of India The primary duty of the Corporation will be to undertake the purchase, storage, transport, distribution and sale of foodgrains and other foodstuffs The Corporation will work as a statutory organisation, wholly owned by the Government But it will be encouraged to function generally as an autonomous body, working on business principles and having regard to the interests of producers and consumers Presently, it will have its head office at Madras and will have powers to establish, with the approval of the Central Government, offices or agencies at other places in or outside India

The initial capital of the Corporation will be Rs 100 crores, provided solely by the Central Government The Corporation is also authorised to augment its resources by taking advances against the stocks held by it from scheduled banks or any other bank or financial institution, approved by the Central Government The Government of India may guarantee such loans as to the repayment of principal, the payment of interest thereon and other incidental charges

State Food Corporations will be established in different States in consultation with the State Governments, so as to make the functioning of the Central Corporation effective These State Food Corporations will be subsidiary and subordinate bodies to the Central Corporation, working in different areas, and not autonomous or semi-autonomous bodies

As a first step in the direction of building up adequate buffer stocks in foodgrains, the Food Corporation of India would start its purchase operations in the Southern zone from January 1965 It is expected to build for itself a commanding position in the rice trade in that region To start with, the Corporation would not procure rice on monopoly basis, but the Government may take recourse to it and requisition the stocks under the Essential Commodities Act and the Defence of India Act, if necessitated by events

The Corporation will, in due course, turn its attention to the long-term objective of assisting the farmer in the overall increase of agricultural production Credit will be the principal means by which the farmers would be brought closely with the Corporation's activities The rate of interest on credit advanced would be as low as possible The Corporation would also undertake the supply of productive inputs to those farmers who enter into agreement with it It may also set up or assist in setting up rice mills, flour mills and other undertakings for the processing of foodgrains and other foodstuffs Thus the Food Corporation of India is expected to play a predominant role in coming years

Agricultural Prices Commission

In January 1965, the Government of India constituted an Agricultural Prices Commission under the chairmanship of Professor M L Dantwala Initially set up for three years, the Commission will continue as long as necessary and will periodically submit reports to the Government on agricultural commodities

The terms of reference of the Commission are

1 To advise on the price policy of agricultural commodities, particularly paddy, rice, wheat, jowar, bajra, maize, gram and other pulses, sugarcane, oilseeds, cotton and jute with a view to evolving a balanced and integrated price structure in the perspective of the overall needs of the economy and with due regard to the interests of the producer and the consumer,

2 To recommend from time to time, in respect of different commodities, measures necessary to make the price policy effective,

3 To examine, where necessary, the prevailing methods and costs of marketing of agricultural commodities in different regions, suggest measures to reduce costs of marketing and recommend fair price margins for different stages of marketing,

4 To keep under review the developing price situation and to make appropriate recommendations, as and when necessary, within the framework of the overall price policy,

5 To keep under review studies relating to the price policy and arrangements for the collection of information regarding agricultural prices and other related data and suggest improvements in the same, and

6 To advise on any problems relating to agricultural prices and production that may be referred to it by the Government from time to time

CHAPTER XII

AGRICULTURAL FINANCE

In the context of planned agricultural development of the country, provision of adequate credit both for short term and long-term needs of the agriculturist becomes a vital issue The Indian farmer, due to the small size of his farm, has hardly any saving of his own The traditional source of finance has been and continues to be the village moneylender and although some amount of finance is being made available from Government and the co-operative movement which has tried over the last six decades to extend its operations, the total resources provided from these sources are inadequate But the problem of agricultural finance in a developing economy is one not only of enlarging the supply of credit and making it available on reasonable terms, but also of building up institutional agencies which take an integrated view of the requirements of the agriculturist and enable him to organise his operations on a proper economic basis

This question was examined in great detail and a comprehensive analysis presented in the Report by the Committee of Direction of the All-India Rural Credit Survey appointed by the Reserve Bank of India According to the findings of the Survey, as given in the General Report, as much as 70 per cent of agricultural credit was provided by the moneylender The share of the Government was 3 3 per cent and that of the co-operatives 3 1 per cent of the total The Survey data relate to the year 1951-52 Since then the share of the co-operatives has increased considerably,[1] but the overall importance of the moneylender as the prime constituent of the agricultural credit machinery has not materially changed It is proposed in this chapter to outline the role of the Government and moneylender in the provision of agricultural credit The progress of the co-operative movement will be reviewed in the next chapter

---

[1] The recent Rural Credit Follow-Up Surveys conducted by the Reserve Bank of India indicate that co-operatives provide about 17 to 21 per cent of the credit needs of cultivators

GOVERNMENT FINANCE FOR AGRICULTURE

Takavi is the ancient and traditional form of Government assistance to the agriculturist and dates back to the Indian rulers of the pre-British era It has been essentially an ameliorative measure to enable the farmer to tide over emergencies such as flood or famine The advancing of loans by Government to finance the emergent needs of the agriculturist on a regular basis began towards the end of the century with the passing of the two legislative measures, (i) the Land Improvement Loans Act of 1883 and (ii) the Agriculturists' Loans Act of 1884 While the former is broadly concerned with the long-term loans, the latter is concerned with the short term accommodation. Both these Acts were passed on the recommendation of the Famine Commission of 1880 *Takavi* therefore came to play an important role in times of famine and distress The fact that these Acts or their derivatives have been in operation in all States (except Kerala, Rajasthan and Jammu & Kashmir where specific Acts are in operation) and the fact that disbursement is generally made through the revenue agency have brought about a certain measure of uniformity in the system of *takavi* in most States Since the World War II and particularly after Independence, loans and grants made under the Grow More Food schemes, schemes of rehabilitation of displaced persons and the Community Development Programme have resulted in a noteworthy expansion of the *takavi* finance without, however, making any significant alteration in its administrative and legal framework

Takavi loans are advanced mainly for the purposes of purchase of seeds, manures, fertilizers and cattle, bunding and levelling up of land, undertaking soil conservation works, digging and repair of wells, installation of pumping sets, persian wheels, etc, construction and maintenance of irrigation channels, reclamation of waste land, purchase of agricultural implements and machinery such as tractor, etc, adoption of plant protection measures, adoption of improved agricultural practices, establishment of orchards, purchase of fodder for cattle, maintenance of cultivators while engaged in sowing and tilling their lands prior to the next crop and undertaking repairs and reconstruction of houses damaged by floods, etc Loans issued for giving relief to persons who have been victims of floods, famines, etc, are not shown as such, but are described in the relevant loan bonds as for one or more of the purposes listed The nature of security usually demanded for Government loans is immovable property The loans, however, are advanced at low rates of interest

In recent years, especially since the commencement of the First Five-Year Plan, there has been a substantial stepping up in the finance by the Government to agriculturists by way of loans Table I indicates the volume of such advances made by the State Governments since 1948-49 for specified years

TABLE I

LOANS AND ADVANCES TO AGRICULTURISTS
1948-49 TO 1960-61

(Rupees in crores)

Year	Amount advanced
1948-49	11 1
1950-51	14 0
1955-56	33 1
1960-61	42 1

The quantum of distress finance cannot be exactly ascertained in the absence of adequate data But according to the Committee on Takavi Loans and Co-operative Credit, it may be taken at about one-third to one-fourth of the total over a period of years in the past[2] The overdues position as can be seen from Table II has deteriorated year after year in relation to demand and outstandings

---

[2] Report of the Committee on Takavi Loans and Co-operative Credit, Ministry of Community Development, Panchayati Raj & Co-operation (Department of Co-operation), Government of India (August, 1962) (Mimeographed), p 27

TABLE II

OVERDUES POSITION

(Rupees in crores)

	Particulars	1958-59	1959-60	1960-61
1	Demand for the year	51 9	56 2	59 6
2	Amount recovered during the year	21 8	19 4	21 8
3	Overdues at the close of the year	30 3	36 9	37 7
4	Outstandings at the close of the year	106 0	119 2	138 6
5	Percentage of overdues to demand	58 3	65 7	63 3
6	Percentage of overdues to outstandings	28 6	30 9	27 2

N B Data relate to all States except Jammu & Kashmir for which figures were not available

In spite of a large increase in the quantum of Government finance the total resources provided are still inadequate in relation to needs Further as the Rural Credit Survey has pointed out, the benefits of this assistance do not always reach the small farmer According to the Rural Credit Survey Report, the all-India average of borrowings per cultivator from the Government was Rs 24 for big cultivators whereas the same for small cultivators was only Rs 4 Altogether the large cultivators who constituted about 30 per cent of the total accounted for nearly 60 per cent of the borrowings from the Government In contrast, the share of the small cultivators who formed 30 per cent of the total number of cultivators was only 10 per cent of the total borrowings[3] A part of the explanation for this uneven distribution lies in the fact that medium term loans and long-term loans for improvement which constitute the bulk of such loans are normally sought by the comparatively well-to-do cultivators Further, smaller land holders and tenants cannot avail of *takavi* loans as they are unable to furnish the security as required by the rules

---

[3] If related to the proportion of land ownership/operation by the various classes, the disparity will be much less

Usually, *takavi* loans are sanctioned against the following three types of securities

(a) The borrower's interest in the land to be improved

(b) Collateral security of other lands belonging to the borrower, or the surety offered by other persons to support the claims of the borrower

(c) Joint security of the village community or a group of cultivators

In practice, however, a great deal of importance is attached to the ratio of the loans granted to the value of the collateral pledge According to the Rural Credit Survey, the proportion of Government loans secured against immovable property was 100 per cent in Hyderabad, 99 per cent in Mysore, 97 per cent in Bombay, 95 per cent in Vindhya Pradesh, 89 per cent in Madras, 79 per cent in Madhya Pradesh and 75 per cent in Punjab[4] The Grow More Food Enquiry Committee which reported in 1952 also referred to the undue emphasis on property as a basis for security and observed that *takavi* loans for sinking wells could not be availed of by the smaller land holders and tenants in many cases for lack of land or other security to offer Complaints have also been made against the system of entrusting the distribution of *takavi* in kind to local committees Such committees often represent the upper classes and land holding interests in the village. Therefore, considered as a system of supply of agricultural credit to the cultivators, it suffers from defects which result in "inadequacy of amount, inequality of distribution and inappropriateness of the basis of security"[5]

Some of the other undesirable features of the *takavi* finance relate to too much delay in disbursement of the loan, inadequate supervision and lack of co-ordination between the different departments concerned with the operation of the *takavi* system These deficiencies can be traced to the administration of these loans which is in the charge of the revenue agency and recently of agriculture and development departments of the State Government The officials of these departments are burdened with multifarious duties and are not equipped to deal with the task of assessing credit requirements or of supervising the use of the credit when granted Further, there is the problem of lack of co-ordination between the different departments — agriculture, revenue, community development, rehabilitation All these departments are empowered to issue loans for most of the purposes enumerated earlier, with the result that an agriculturist can obtain loan from different departments for the same purpose Thus the system of Government loans is prone to considerable overlapping Further as co-operative societies and land mortgage banks also advance loans for the same purposes for which *takavi* loans are advanced, it results in the grant of unco-ordinated and excessive credit to some persons particularly bigger and influential cultivators and denial of any credit to others equally needy but lacking influence

---

[4] Report of the Committee of Direction, All-India Rural Credit Survey, Volume II — The General Report, Reserve Bank of India (1954), p 202

[5] *Ibid*, p 199

The question of the suitability of *takavi* system for supplying the credit needs of cultivators was examined by several committees The Indian Central Banking Enquiry Committee (1931) was of the view that the Government obviously cannot provide all the credit requirements of agriculturists and at the same time piecemeal and sporadic supply of a fraction of such requirements was sure to fail The Agricultural Finance Sub-Committee (1944) also agreed with the above view and added that the system of *takavi* which originated in times of distress and famine should continue to operate as distress finance The Rural Credit Survey Committee (1951-52) characterised the *takavi* "to be little else than the ill-performed disbursement of inadequate moneys by an ill-suited agency,"[6] and recommended that the Government finance should be strictly limited, subject to transitional exceptions, to periods of widespread distress, on the ground that any large institutional development on the part of the Government for providing timely and adequate credit to millions of agriculturists is beyond its administrative and financial resources

---

[6] *Ibid*

For a variety of reasons, therefore the consensus of informed opinion has been against the continuance and development of the system of *takavi* as a regular source of supply of credit to the agriculturist This view has found favour with the Government which, through a resolution of November, 1958 passed in the National Development Council, considered it essential to channelise *takavi* loans and allied facilities through co-operatives so that conditions may be created in which every rural family will find it advantageous to join the village co-operative, the only institutional agency at the village level which should supply credit to agriculturists Recently, the Committee on Takavi Loans and Co-operative Credit was appointed by the Government of India in July, 1961 to examine, *inter alia,* the organisational, procedural and administrative difficulties that came in the way of successful implementation of the policy of routing *takavi* loans through co-operatives After examining the question in detail, the Committee recommended the discontinuance of Government credit for normal production and land improvement purposes There are, however, certain purposes, areas and classes of people for which because of technical nature of operations or the financial risks involved or delayed returns on investment or the weak character of co-operatives, Government will have to continue to provide finance directly to agriculturists In all other cases, co-operatives should be accepted as the institutional agency for agricultural credit and funds available with the Government for making advances to agriculturists should be utilised to supplement the resources of the co-operatives At the same time, Government should continue to make budgetary provisions in an increasing measure for financing agriculturists and utilise such provisions for strengthening the structure and resources of the co-operatives[7]

MONEYLENDER FINANCE

We may turn now to the private financing agencies in the field of agriculture Apart from commercial banks, which supply only about 1 per cent of the total borrowings of cultivators, these comprise professional moneylenders, agricultural moneylenders, relatives, traders and landlords The investigations made by the Rural Credit Survey showed that as much as 90 per cent of the total credit available to cultivators came from these sources Loans from relatives constituted 14 per cent of the total borrowings reported These loans are interest-free and may be regarded as a special category Some 6 per cent of the total borrowings of cultivators was from traders and commission agents, these, again, are not loans so much as advance instalments of the purchase price, and often carry no interest Professional moneylenders supply about 45 per cent and agricultural moneylenders about 25 per cent of the total credit available As the Rural Credit Survey sums up the situation "Among creditors the moneylender, and among moneylenders the professional moneylender, dominates rural credit"

---

[7] Report of the Committee on Takavi Loans and Co-operative Credit, *Op cit*, pp. 62-63

The dominant role of the moneylender and his various devices to extort the maximum from his debtors have been the subject of much comment and discussion But, it must not be forgotten that the moneylender adapted his practices to the needs of the situation, his terms and conditions were 'flexible' even if onerous, he was always ready at hand, and, after all, a member of the rural community An effective substitute for the moneylender has yet to be discovered, neither Governmental finance, nor co-operative finance has so far provided these other facilities which matter a great deal to the farmer

The fact that the moneylender was the only source of finance at a time when the economy was being more and more monetized reduced the agriculturist to a position of sheer dependence Moneylender finance was expensive in terms of the rate of interest, and the agriculturists' need for cash went on increasing Since land was almost the only security which the agriculturist could offer, his failure to pay meant, in due course, alienation of his land and hence loss of his means of livelihood The increasing volume of land transfers from the middle of the 19th century onwards led to peasant uprisings in several parts of the country, and Government had thereafter to regulate moneylending and scale down rural debt

RESTRICTIONS ON TRANSFER OF LAND

For several reasons, the land values were rising rapidly since the advent of British rule in India For instance, at the time of the annexation of the Punjab, the average value of an acre of land in the province was six times the land revenue, in 1938-39, it was 283 times The moneylenders therefore willingly and freely advanced loans to the agriculturist, got him into the coils of debt, forced him to offer a mortgage as security and, finally, resorted to foreclosing With the passing of the Registration of Documents Act (1864) and the Transfer of Property Act (1882), the law came to the aid of the moneylender in expropriating the cultivator all over India By 1874, in the Punjab alone, a million acres were mortgaged and by 1891 the figure had gone up to 4 million acres The money was advanced on such hard terms that the mortgages generally ended in sale Thus the Famine Commission of 1880 recorded the evidence of Sir A Mackenzie, the Chief Commissioner of the Central Provinces, that in every district through which he had marched he was beset by "unfortunate men anxious to spread before him their little bundle of decrees, for many times their original loan then sale and after that, the heart-breaking hunting of the camps and footsteps of the higher officials who can do nothing but send the petitioner away as he came" In the Punjab, between 1875 and 1893, the moneylenders acquired 1,179,000 acres in different parts of the province and in the single district of Gujranwala they purchased over half the land sold during the period[3] This evil of mortgage debt and alienation of land soon assumed vast proportions and the agrarian discontent found expression in several peasant risings in Bombay, Bengal, Oudh, Ajmer and other parts of the country

DECCAN AGRICULTURISTS' RELIEF ACT

In Bombay, agrarian discontent led, in 1875, to an uprising of a large number of people in 45 villages in the Poona district and in 22 villages in the Ahmednagar district against the moneylending classes who were forced to surrender the bonds and other securities which were burnt in the open As a result of the re-

---

8 M L Darling The Punjab Peasant in Prosperity and Debt (1925), p. 233

commendation of the Commission appointed to inquire into the riots, the Government passed the Deccan Agriculturists' Relief Act in 1879 for restricting alienation of land and restraint of usury This Act authorised the courts to examine the history of the farmer's debt in suits against him, to make an estimate of the sum actually due and to withhold unreasonable rates of interest It protected the debtor from arrest and from sale of land unless it was definitely pledged It also provided for the restoration of lands to the debtor under certain circumstances even if there was a sale deed between the debtor and the creditor. An agriculturist owing more than Rs 50 could be declared insolvent on application The Act also provided for the appointment of debt conciliators The Amendment Act of 1882 provided for the redemption of debts before the due date mentioned in the bond and empowered debtors to sue for accounts without seeking the redemption of mortgaged lands

A Commission appointed in 1892 to enquire into the working of the Act reported that conciliation had only been misused in favour of the creditor The Government adopted one amendment after another to cure the Act of its defects but the provisions were evaded by the creditors by over-writing the bonds or by acquiring the lands under different forms of sub-leases so as to avoid the risk of these being interpreted by the courts as mortgages The results of the Act were so disappointing that another Commission in 1912 as also the Bombay Banking Enquiry Committee recommended its repeal and its replacement by a new Act

No action was taken in the rest of India until 1895 when after consideration of the report on the Deccan Agriculturists' Relief Act, the Government of India addressed Local Governments and suggested that some restriction on the alienation of land was desirable As a result, the Punjab Land Alienation Act of 1900, the Bundelkhand Land Alienation Act of 1903 (U P), the N W F P Land Alienation Act of 1904 and the Central Provinces Land Alienation Act of 1916 came to be passed In general, these Acts laid down that land mortgages to members of the non-agricultural class could remain in force only for a limited number of years, whereafter the lands were to be returned to the mortgagor free from all encumbrances. In the Punjab, the mortgagor could redeem his lands at any time during the currency of the mortgage, by depositing a certain proportion of the debt as the Deputy Commissioner may determine to be equitable, provided the mortgage was in the form permitted by the Land Alienation Act In order, therefore, to facilitate the redemption of other mortgages by summary procedure, the Redemption of Mortgages Act was passed in 1913 This Act empowered the Collector, on petition by the mortgagor, to summon the parties to attempt to arrive at a settlement and to order redemption if he was satisfied that the mortgagor had paid the mortgagee a proper sum on account of debt Under the Punjab Restitution of Mortgaged Lands Act (1938), a mortgagor can present, subject to certain conditions, a petition to the Collector praying for redemption of land mortgaged prior to 8th June, 1901

These measures, however, failed in their main object, particularly for the reason that the law permitted the transfer of land from the debtor to a moneylender if he was an "agriculturist" Nor were *benami* transactions uncommon in which a professional moneylender got the land mortgaged in favour of another agriculturist and received the rent through him Indeed, as foreseen by one of the members of the Select Committee on the Punjab Bill, there appeared "monster fishes in the agricultural community encouraged by law to swallow smaller fishes" The Land Alienation Act was thus increasingly availed of by the landlord to add to his acres at the expense of the peasantry The benefit of the Punjab Redemption of Mortgages Act was also limited, as the operation of the Act was restricted to mortgages the principal sum secured under which did not exceed Rs 1,000 whatever the area of land mortgaged, or to mortgages of land not exceeding 30 acres in area

That the law failed even in the Punjab, the pioneer province to pass the Act, is an indication that the measure was not sufficiently comprehensive It could not stop the evil of alienation of land nor the growth of rural debts In fact the area under mortgage increased even during the pre-depression years though the contrary ought to have been the case, as more credit could be then raised by mortgaging less lands After the depression, the mortgaged area further increased while the amount raised thereon declined as is seen from Table III[9]

TABLE III

AREA MORTGAGED BY AGRICULTURISTS 1902-06 — 1931-36

Average of 5 years	Total area mortgaged by agriculturists (acres)	Mortgage money per rupee of revenue of area mortgaged (Rs)
1902-1906 (Average of 4 years only)	1,89,810	62
1906-1911	2,39,608	83
1911-1916	2,65,274	86
1916-1921	2,59,826	108
1921-1926	2,94,458	128
1926-1931	2,98,013	116
1931-1936	3,27,835	84

Between 1891 and 1921 the amount of the mortgage debt of the province increased by as much as Rs 25 crores In the following decade a burden of another Rs 31 crores was added In 1931, only 17 per cent of the landowners were free from debt, the average debt per indebted proprietor in that year being Rs 600 as against Rs 463 in 1919 The total debt of proprietors was about Rs 120 crores or twenty-two times and a half the land revenue, and representing at least a year's gross income of those supported by agriculture, or between 5 and 6 years' net income[10]

The situation in other provinces in the pre-British period was not far different from that in the Punjab The figures in Table IV for some of the provinces given by the Central Banking Enquiry Committee show that even mortgage debts had come to bear a large proportion in the total indebtedness of the people[11]

---

[9] Report on the Land Revenue Administration, Punjab, 1938-39, Statement No XXVII

[10] *Cf* M L Darling *Op cit*, pp 9-10

TABLE IV

PROPORTION OF MORTGAGE DEBT TO TOTAL AGRICULTURAL DEBT IN SOME OF THE PROVINCES

Province	Total indebtedness (Rs in crores)	Percentage of mortgage debt to total agricultural debt
Uttar Pradesh	124	56
Madras	150	50
Bengal	100	45
Punjab	135	43
Bihar and Orissa	155	40
Bombay	81	28-36
Central Provinces and Berar	36½	27½

The Royal Commission on Agriculture recommended the passing of Land Alienation Acts in all States But this was not implemented.

REGULATION OF MONEYLENDER

The need for regulating the moneylender's business was emphasised by the Royal Commission on Agriculture which commended the principles underlying the Punjab Regulation of Accounts Act, 1930 and the British Moneylenders' Act of 1927 to the consideration of the Provincial Governments[12] The Conference of representatives of Provincial Governments called in 1934 decided that the matter should be left to the discretion of the local authorities Since that year, almost every province passed laws to regulate the maintenance of accounts by the moneylender These laws, though not uniform, generally provide for the maintenance of proper registers of transactions by the moneylender showing the amount of each debtor separately, to supply the debtor, periodically or on his requisition, with a statement of accounts in respect of each transaction and showing him the outstanding amount of principal and interest and to issue receipts Failure to comply with these regulations makes the creditor liable to the loss of interest (wholly or in part) found due, as also of costs of suits for the recovery of arrears In the Punjab, the penalty is dismissal of the suit, whereas in Assam, Bihar, Orissa, Bombay and Uttar Pradesh, the entry of a fictitious amount in excess of the actual amount loaned out has been made an offence punishable with a fine

---

[11] In 1938, two Acts were passed in the Punjab to amend the Land Alienation Act One of these amending Acts enabled the Deputy Commissioner to determine finally whether any person was to be deemed to be a member of an agricultural tribe for the purpose of the Act, and to set aside *benami* transfers intended to evade the provisions of the Act The other amending Act was intended to check the permanent alienation of land to agriculturist moneylenders by their debtors, with a view to placing the former class for the purposes of the Punjab Alienation of Land Act in the same category as non-agriculturists in the matter of permanent alienation of land by agriculturists

These Acts, however, have not been successful, for the main reason that the debtor himself is not in a position to plead the fact of his not having been supplied with accounts or receipts Again, whenever the debtor has had recourse to courts, his own ignorance has made it difficult for him to prove his claims

REGULATION OF INTEREST

The early laws which authorised the courts to pass decrees sanctioning the rates agreed to in the contract gave a stimulus to usurious practices which had already come into vogue after the disintegration of the rural community When attempts were made to check them by having certain provisions in the Deccan Agriculturists' Relief Act and some of the Land Alienation Acts to that effect, the moneylender started over-writing the bonds and under-writing repayments So, in 1918, the Usurious Loans Act was passed to protect the debtors against hard and unconscionable bargains by authorising the court to reopen, of its own motion, old transactions and to settle the terms equitably But the Act was soon found wanting as it was to apply only in suits by creditors for the recovery of their dues A debtor could get the benefit of the Act only by driving the creditor to the court by refusing to repay a loan This Act, however, was amended in 1926 so as to enable the debtors to have recourse to law for relief It was found thereafter that even this new Act was limited in its scope as the courts could not give any retrospective effect to its provisions and could reopen accounts only when several conditions were fulfilled

---

[12] Report of the Royal Commission on Agriculture in India (1928), para 366.

The Central Banking Enquiry Committee made valuable suggestions for rectifying these defects by adding some new provisions so as to make the new Act really effective In the post-depression period, nearly every province carried out this recommendation either by further amending the Usurious Loans Act or by including the necessary provisions in other Acts governing moneylending or debt relief Generally, the new provisions made it incumbent on the courts to reopen past transactions and to award interest at certain prescribed rates In most of the provinces a distinction was made between secured and unsecured loans, the former having a lower rate of interest, while in some of the provinces compound interest was forbidden Table V gives the maximum rates of interest chargeable under the several Acts providing for the regulation of interest

In Uttar Pradesh, the arrangement is more elastic as it is provided that the Government will notify from time to time the interest rate in consonance with the money market conditions in relation to loans prior to the Agriculturists' Relief Act of 1934, while on loans subsequent to the Act, the rate of interest varied according to the amount of the loan, being lower the larger the amount

In most of the States (Assam, Bengal, Bihar, Madhya Pradesh, Madras, the Punjab and Uttar Pradesh) reduction in payment towards accumulated interest was provided by adopting the rule of *Damdupat* Under this principle, in Madras, a debtor need not pay anything more towards the debt when he has paid twice the principal of the loan In several other States, the payment of a sum greater than the principal towards the arrears of interest is prohibited

TABLE V

MAXIMUM RATES OF INTEREST ALLOWED

State	Relevant Act	Simple interest per cent per annum		Compound interest per cent per annum
		Secured Loans	Loans Unsecured	
Assam	The Assam Moneylenders Amendment Act, 1943 (Sec 4)	9⅜	12½	Prohibited
Bihar	The Bihar Moneylenders Act (Sec 9 and 10)	9	12	Prohibited
Bombay	The Bombay Moneylenders Act, 1946 (Sec 25)[1]	9	12	—
Madhya Pradesh	Usurious Loans Act, 1918	12	18	10
Madras[2]	The Madras Agriculturists Act, 1938 (Sec 13)	6¼	6¼	—
Orissa	The Orissa Moneylenders Act, 1939 (Sec 9)	9	12	—
Punjab	The Punjab Relief of Indebtedness (Amendment) Act, 1940	7½ or 2 per cent above the bank rate whichever is higher	12½	—

(*Contd*)

---

[1] This Act as amended in 1951 provides that the State Government may from time to time by notification fix the maximum rates of interest for any local areas or class of business of moneylending in respect of secured and unsecured loans The rates given here are in force from 5th July, 1952

[2] The Madras Pawn Brokers Act, 1961 (Sec 4(i) prescribes 12 per cent for secured loans only The Madras Moneylenders Act, 1957 prescribes interest rates of 9 per cent and 12 per cent for secured and un-

TABLE V (Contd)

State	Relevant Act	Simple interest per cent per annum		Compound interest per cent per annum
		Secured Loans	Unsecured Loans	
Uttar Pradesh[3]	The United Provinces Debt Redemption Act 1940 (Sec 9 (2))	4½	6	—
West Bengal[4]	The Bengal Money-lenders Act, 1939 (Sec 30)	8	10	—
Pepsu	The Patiala Relief of Indebtedness Act, 1999 Svt (Sec 5(2) (*e*))	7½ or 2 per cent above the bank rate whichever is higher	12½	—
Hyderabad	The Hyderabad Moneylenders Act, 1349 F (Sec 10)	6	9	Prohibited
Mysore	The Mysore Money-lenders Act, 1939 (Sec 14)	9	12	6
Travancore-Cochin[5]	Travancore Civil Procedure Code Regulation 1100 ME	12	—	—
	Cochin Usurious Loans Act,´ 1111 ME (Sec 3(2) (e))	12	—	—
Ajmer	The Bombay Money-lenders Act, 1946 (Sec 25)	9	12	—
Coorg	The Coorg Money-lenders Act, 1937 (Sec 8)	7½	12	Prohibited
Himachal Pradesh	Himachal Pradesh Debt Reduction Act, 1953 (Sec 8 (2))	6	12	—

Source Agricultural Legislation in India, Vol I—Regulation of Money-Lending, Directorate of Economics and Statistics, Ministry of Food & Agriculture, Government of India, 1956, pp vii-viii

[3] In case of agriculturists and workmen only

[4] According to the West Bengal Moneylenders Amendment Bill, 1962 (Sec 5), interest is 15 per cent on secured and 12½ per cent on unsecured loans

[5] According to the Kerala Moneylenders Amendment Bill, 1963, interest is 6 per cent on secured loans for amounts below Rs 25, 9 per cent for amounts above Rs 25 For unsecured loans, it is 12 per cent

REGISTRATION AND LICENSING OF MONEYLENDERS

As it was found that evasion of law by the moneylenders was possible because few cases came before the courts, most of the States (Madhya Pradesh, the Punjab, Bihar, Bengal, Bombay and Uttar Pradesh) sought to locate the moneylenders by making registration and licensing compulsory for them Those moneylenders who did not hold any registration certificate were either debarred from having recourse to courts of law for the recovery of their dues or they were made liable to severe penalties Yet, the working of this Act, for example, in the Punjab has had some surprising results Only a small number of moneylenders—9,206 out of about 55,000 in the province—registered themselves in 1939 This is presumably due to the moneylenders realising the futility of going to court in view of the new agrarian relief legislation Nevertheless, these provisions for registration and licensing, if effective, would greatly facilitate the growth of organised rural banking and enforcement of rules of business and audit under the supervision of the financing banks But the definition of the term "moneylender" is not always sufficiently comprehensive to cover all the moneylenders Moreover, a number of loans (such as loans to traders, small loans on equated payments, kind loans carrying a certain rate of interest) have been excluded from the operation of these Acts As a result, the sifting of the various kinds of loans for applying the Act to such of them as come under it becomes an extremely complicated task and provides a way of escape for many an ingenious moneylender

MORATORIUM

The world depression of 1929 which impoverished most of the cultivators necessitated, in addition to regulating the business of moneylending, some measures of relief to the agriculturist debtors Being weighed down by a crushing load of debt, it was impossible for them to get even a subsistence income from their lands when agricultural prices had fallen almost to half. The Provincial Governments therefore tried to devise measures of immediate and speedy relief The earliest means adopted was of granting a moratorium to prevent the rush of suits and wholesale execution of decrees during the period of formulation of debt relief measures Moratorium laws were passed during the 'thirties in the States of Uttar Pradesh (1934 and 1937), Bombay (1938), and Central Provinces and Berar (pre-Reorganised Madhya Pradesh) (1938)[13] The main object of this legislation was to stay the proceedings against the agriculturist debtors for debts or arrears of rent, etc, and to prevent for a certain period (usually one year), the transfer of land or other assets of the debtor to the creditor While this legislation gave some time to the Provincial (now State) Governments for bringing forth comprehensive legislation on debt relief it also saved the distressed agriculturists from harassment of litigation and from the transfer of their property to creditors in execution of court decrees at the then prevailing low prices It also gave an opportunity to the debtor to stabilise or improve his position during the interval and to develop a capacity to discharge his obligations without parting with his productive assets

In the remaining former provinces, the Debt Relief Acts provided for staying proceedings in suits and decrees on the application by the debtors for conciliation of debts and thus indirectly granted a moratorium in respect of their loans The moratorium thereafter varied with the length of time taken by the Conciliation Boards to settle the debts

CONCILIATION OF DEBTS

With a view to bringing about amicable settlement of debts, Debt Conciliation Acts were passed in the Madhya Pradesh (1933), the Punjab (1934), Assam (1935), Bengal, Madras (1936) and in some of the Indian States Under these Acts, Conciliation Boards came to be set up for adjusting the available assets of the debtors to the total debts and facilitating repayment in a reasonable number of instalments Such a reduction in debt was permitted only when creditors to whom 40 per cent (in the case of Madras) of the debts were owed agreed to an amicable settlement Creditors who refused to agree to the Board's decision were placed under certain disabilities in recovering their dues (*e g*, disallowance of costs of suit and simple interest in excess of 6 per cent) while the claims of those who accepted it were given priority.

---

[13] *Vide* Agricultural Legislation in India, Vol VIII—Relief of Agricultural Indebtedness, Government of India (1958), p x

The jurisdiction of the Boards was generally one or two talukas Facilities were granted to the creditors to realise the instalment amounts through the revenue officers so as to induce them to join in an agreement In Bengal, the awards were made negotiable by providing that the right to receive any amount payable under an award could be assigned in the manner prescribed in the Act[14]

The working of these Boards brought considerable relief to the cultivators In the Punjab, during the year ending 31st December, 1940, the Conciliation Boards disposed of nearly 26,000 applications involving Rs 246 lakhs, the debts which were actually admitted amounted to Rs 91 45 lakhs of which the debtors agreed to pay Rs 35 85 lakhs Debts admitted on creditors' application only amounted to Rs 14 42 lakhs of which the debtors agreed to pay Rs 4 19 lakhs In Madras, a total of Rs 508 lakhs was reduced to Rs 265 lakhs during the 28 months ending June, 1940 Between 1938 and 1950, only a little more than Rs 10 crores of debt or about 4 per cent of the indebtedness could be scaled down, benefiting hardly 5 per cent of the total number of agriculturists[15] In Bengal, during 1937-38, debts amounting to about Rs 5 crores were scaled down all over the province The amount of debt disposed of till 1945 represented only 18 9 per cent of the total rural indebtedness in the State In Uttar Pradesh, till 1945-46, the amount dealt with was Rs 7 1 crores, which formed 29 6 per cent of the total debts[16]

Defects in Working

The exclusion of certain classes of debts under these Acts has restricted the scope of benefit Thus, for example, rent debts, co-operative debts, debts due to banks, trade debts and debts due to Government are partially or totally excluded from many of the Acts, or they are included in the Acts subject to certain difficult conditions The inability of the illiterate debtor to give the names of some of his creditors makes conciliation of many debts difficult, since it would be unfair to cancel the debts of creditors to whom no notice has been served Fraudulent practices such as false transfers and bogus mortgage deeds hamper settlement of debts but many of the Conciliation Acts do not empower the Boards to dismiss such applications In most of the Acts there is no provision to settle the debts of an individual debtor in case of joint debts unless all the debtors apply for settlement

---

[14] *Cf* K G Sivaswamy: Legislative Protection and Relief of Agriculturist Debtors in India (1939), p 266

[15] *Ibid*, p 307

[16] *Reserve Bank of India Bulletin*, Vol III, No 2, February, 1949, p 89

As a result, applications from debtors who are a party to joint debts have failed to receive consideration from the Boards Where the Board tries to decide the validity of disputed debts, its labour is wasted because its decision is not made binding Applicants are also rejected by the Board for reasons such as extreme attachment of the debtor to his land and his unwillingness to come to a settlement with his creditors when it involves transfer of land, unwillingness of creditors to conciliate debts due to them where they hold decrees of foreclosure or lands under interminable usufructuary mortgage, over-indebtedness of the debtors, debtors owing heavy arrears of rent or revenue, debts supported by defective documents, etc Corruption and inefficiency of the Boards have also been detected in some cases It is thus reported of Bengal that these Boards consisted mostly of persons whose literary attainments went little beyond ability to sign their names It is too much to expect such members to solve "intricate questions of law that often tax the intelligence and baffle the judgement of experienced judges and lawyers"[17] Lack of a sufficiently large number of Boards has often, as in Bengal, led to a sudden increase in proceedings against debtors in those areas where the Boards were not instituted As a result of these factors the scope of conciliation has been limited

COMPULSORY SCALING DOWN OF DEBTS

The scope of amicable settlement being limited, relief was further sought to be given to the agriculturists through compulsory reduction in the claims of the creditors Madras was the first province to give such ready relief to debtors by passing the Madras Agriculturist Relief Act of 1938 Firstly, the legislation prohibited the creditor from recovering in the aggregate more than twice the original loan, where repayments were less than twice the sum borrowed, only the balance was to be paid All arrears of interest outstanding on 1st October, 1937, on debts incurred before 1st October, 1932, were cancelled and only the principal was deemed payable Interest on debts incurred on or after 1st October, 1932, could not exceed 5 per cent till 31st October, 1937, whereas interest on all decrees from the latter date was laid down at 6¼ per cent Tenants were also given relief by wiping out all arrears of rent except those of the two years preceding the Act, provided these latter were paid by September, 1939 Sales of movable or immovable property could be set aside if made in execution of a decree after the 1st October, 1937 In Madhya Pradesh, the Debt Relief Act passed in 1939 replaced Debt Conciliation Boards by Debt Relief Courts which were authorised to give graded relief to the debtors in respect of their dues, on the basis of fall in prices since the depression The principal of debts prior to 31st December, 1925, was to be reduced by 30 per cent, of those incurred between that date and 31st December, 1929, by 20 per cent while those between the last date and 31st December, 1931, by 15 per cent. Debts incurred subsequently were not provided relief The payment of interest could not exceed 6 per cent simple interest on secured loans and 9 per cent on unsecured loans while the payment of compound interest was limited to 4½ per cent with yearly rests

---

[17] See K G Sivaswamy *Op cit*, p 302

The U P Agriculturists Debt Relief Act of 1939 laid down that loans taken before the Act came into force should carry a certain scheduled rate of interest from 1st January, 1930, till such date as might be fixed by the local Government Any judgment-debtor whose decree was not executed could apply for revision The excess paid under interest was to be credited to the principal Interest on subsequent decrees was not to exceed the rate at which the local Government borrowed The Act authorised the courts to award by way of the principal amount due, a sum which would not exceed twice the amount of the principal minus all the payments received by the creditor in the past in respect of the said transactions The landed property of protected tenants could not be sold away to realise their dues, but creditors could take possession of it as a usufructuary mortgage[18]

The Bombay Agricultural Debtors Relief Act, 1939, was put into force in 1941 as an experimental measure in a few talukas in the three divisions of the former province It provided that every debt, in respect of which no application for settlement was made within one year from the date on which a Board was established, would be deemed to have been duly discharged The specially constituted Debt Adjustment Boards working under the control of the civil courts were authorised to compel the creditors to accept scaled down debts They also settled the subsequent arrangements for the repayment of the adjusted amount in instalments convenient to the debtor As in Uttar Pradesh and Madhya Pradesh, the Act made provision for graded relief The account regarding the principal was to be separate from that of interest, accumulated interest not being allowed to be debited to the account of the principal The rule of *Damdupat* was also adopted for reducing the debt A procedure was laid down for the Boards to estimate the debtor's ability to repay his dues and the principal could be scaled down to 80 per cent of this repaying capacity Where creditors agreed to scale down the total claims to 50 per cent of the assets of the debtor, they could be paid down the amounts in the form of bonds issued to them by the State Land Mortgage Bank Otherwise, they could recover the scaled down debts in instalments not exceeding 25 in number Where the assets of a debtor were found inadequate for repayment, the Board could declare him an insolvent[19] In general, the element of compulsion has not always proved to be a better alternative to amicable settlement

OTHER MEASURES

In addition to debt relief, attention is given to the necessity of exempting a portion of the debtor's property from attachment and sale and the protection of the debtor from intimidation and molestation by the creditor for the recovery of his dues One aspect of this problem of indebtedness, however, that remains to be urgently tackled is that of insolvent agricultural debtors Where ancestral debts have been for years disabling the farmer even from profitably continuing his occupation, debt conciliation is an inadequate relief While in Europe restrictions are placed on the recovery of ancestral debts to the extent of the property inherited, there is no corresponding measure passed in India for the relief of the debtors To such cultivators, who are beyond any hope of being rehabilitated, insolvency provisions are the only remedy The case for a simple Insolvency Act for such farmers has found support from several Commissions and Committees in the past—including the Royal Commission on Agriculture, the Civil Justice Committee and the Indian Central Banking Enquiry Committee "Just as creditors have the right to insist that all the debtors' assets should be impounded and applied towards the payment of the debts. so also the debtor who has given up all his assets should have the clear right to be allowed to earn his living if he can and to be free to make a new start in life"[20]

---

[18] Re-enacted as the U P Debt Redemption Act, 1948, The U P Regulation of Agricultural Credit Act, 1940, re-enacted in 1948

[19] Re-enacted as the Bombay Money-Lenders' Act, 1946, and amended in 1948, 1949 and 1951

But as the Insolvency Act of 1920 was intended only for debtors whose debts amounted to more than Rs 500 and as the courts also generally disallowed the benefit of the Act to land holders whose rights were protected from sale in execution, it was not very helpful to cultivators The Royal Commission on Agriculture had, therefore, recommended amendment of the Insolvency Act enabling the debtors whose debts were less than Rs. 500 to have recourse to this Act This recommendation was given effect to by the Governments of some States In Bengal, insolvency provisions were embodied in the Agricultural Debtors' Act of 1936[21] In other States which did not adopt similar provisions, the creditors failed to get expeditiously the maximum repayments possible while the debtors, weighed down by past debts, were unable to make a new start in life

---

20 Report of the Royal Commission on Agriculture in India, *Op cit*, p 441

21 Re-enacted as the Bengal Moneylender's Act, 1940

A simple rural Insolvency Act enabling the debtor to surrender all his assets to the creditors excepting a subsistence holding to earn his living would meet the situation, if, indeed, the debtor had a subsistence holding to start with There is no reason to fear that such a provision would bring in a wholesale resort to insolvency Unless such help is given to the large number of hopelessly insolvent debtors in rural areas, the other alternative is, as the Royal Commission on Agriculture observed, "to witness a continuation of a system under which innumerable people are born in debt, live in debt and die in debt, passing on their burden to those that follow"

LIMITATIONS OF DEBT LEGISLATION

The main provisions of the legislative enactments in the States comprise (1) the licensing and registration of moneylenders, (2) maintenance of accounts in the prescribed forms, (3) furnishing of receipts and periodical statement of accounts to debtors, (4) fixing of maximum rates of interest, (5) protection of debtors from molestation and intimidation and (6) penalties for violation of the provisions The Acts are neither equally comprehensive nor uniform in scope In Madras, Assam and Coorg there were no provisions for either registration or licensing The Punjab Act excluded protection in case of substantial mortgage or sale of immovable properties The Bengal Act excluded all commercial loans The Madras Act excluded advances made by the landlord to his tenant, by a lessor to his lessee or by one person in cultivation or co-sharer to another The Orissa Act did not exclude the loans advanced by the scheduled or commercial banks, but where the capital advanced did not exceed Rs 1,000, the transaction was not considered as moneylending for the purposes of the Act

Effects of Debt Legislation

It now remains to consider whether the legislation for debt relief and control of moneylending has adequately solved the problem of rural indebtedness There is no doubt that one of the most significant events of the depression, in this context, was the enactment in a large number of States of debt relief legislation But the data, however meagre, on the working of the various Acts in the post-depression period until the beginning of World War II show that in practically none of the States did such legislation succeed in making any noticeable impression on the general level of indebtedness The immediate effect of these measures had been a contraction of credit The latter was also partly due to the economic depression which affected the moneylending profession (by freezing the assets of those who were both agriculturists and moneylenders) in areas where such legislation was in force The moneylenders discontinued lending except to old and trusted clients and restricted their loans to a minimum[22]

In most of the States the main drawback of these relief measures was that the State did not come to the help of the farmer in repaying his dues to the creditor It is mainly for this reason that many debtors became defaulters even in respect of their scaled down debts while in some States like the Punjab, many a cultivator refused to repay his debts to co-operative societies and the *takavi* dues to governments While it is not denied that some defaults in so far as they were wilful reflect the demoralising effects of the agrarian relief legislation, it is equally true that the major cause of default is the debtors' inability to pay. The measures therefore cannot be said to have had no value at all In a number of cases they did succeed in achieving what was probably the main objective, *i e*, to give the agriculturists some breathing time to enable them to settle claims made upon them by their creditors Since the proceedings against the cultivators who came under this Act were stayed until disposal, the overall effect of the legislation was to restrain the creditors from taking out suits against debtors, though it must be said that the Act did not bring under its purview a large section of the agricultural population However, apart from this, the effect of these measures on the level of indebtedness in the various States was generally unimpressive

On principle, it is recognised that debtors should repay all legitimate dues to the fullest extent Where it is impossible for the debtor to do so, he may be assisted by government In the former Princely State of Bhavnagar, for example, the government based its scheme of debt redemption on the principle that the maximum amount annually repayable by an agriculturist debtor should not exceed three times the annual assessment payable by him. The State, thereafter, undertook to help the debtors to repay their dues The total amount to be advanced by the State for this purpose in respect of each village, however, was not to exceed one-fourth of the nominal arrears outstanding in the books of accounts of the moneylender This advance was recovered from the agriculturist at 4 per cent per annum along with the annual assessment To save them from again falling into debt, the government undertook several constructive measures to improve the economic conditions of the farmers They also granted liberal remissions of arrears of land revenue

---

[22] Statutory Report of the Agricultural Credit Department, Reserve Bank of India (1937), Para 11

But the dominating factor of the debt situation between 1931-39, *i e*, after relief measures were introduced, was probably the inability of the cultivator to repay the principal amounts of old debts in most cases and default even in the repayment of interest charges to a certain extent This incapacity of the debtor does not seem to have been removed by any direct assistance or indirect financial aid by Government Actually, though fresh borrowing during the period appeared to have been reduced to a minimum, the level of debt which under the circumstances was broadly a function of accumulated interest on the one hand and forced liquidation of debts by sales and foreclosures on the other, did rise with an expansion in the monetary burden of agricultural debt

The Rural Credit Survey has come to the conclusion that the law has been powerless against the moneylender The control sought to be exercised on him by the legislative enactments has had little effect on him or his operations beyond putting him to the necessity of devising a variety of legal camouflage for a whole range of illegality[23] Even the regulation of the rate of interest on the loans of moneylenders to agriculturist borrowers under the Deccan Agriculturists' Relief Act did not, in practice, have any effect as there was no alternative or supplementary organised arrangement for the supply of credit at reasonable interest or at the ceiling interest fixed by the law to the cultivators At least such a substitute arrangement would by effective competition compel the moneylender to bring down his interest rates, but such organisations did not exist except for co-operative credit societies in certain areas The measures taken by government were relatively minor and almost insignificant in relation to the total credit needs Even the expansion of the facilities for cash remittances through the establishment of a large number of banking currency chests initiated by the Reserve Bank in conjunction with the programme for the extension of the branches of the State Bank of India, could not by themselves, or in conjunction with other measures adopted by State governments, help to provide adequate credit as an alternative to that supplied by the moneylenders It is because of the undiminished demand for credit on the part of the agriculturist population that the moneylender has been enabled to successfully evade the controls imposed on him and to continue to supply agricultural credit as extensively and extortionately as ever The data on rates of interest by themselves are sufficient to indicate the general evasion of legal regulations throughout the country The borrowings at rates higher than the legal maximum exceeded 60 per cent of the total borrowings from the agencies in Bihar, Orissa, West Bengal, Hyderabad, Madras, Madhya Pradesh and Pepsu[24]

---

[23] All-India Rural Credit Survey, Vol. II—The General Report, *Op cit*, p 326.

The main criticism that can be levelled against these laws is that they are inadequate in themselves to tackle the evil of indebtedness They are at best corrective and not preventive The moneylender's dealings may be regulated, and debts may be conciliated or scaled down, but they are bound to reappear so long as the occupation of farming itself cannot give the cultivator sufficient means to subsist With the help of these measures the farmer may recover part of his lost ground but he cannot hold it for long, unless efforts are simultaneously made to rehabilitate agriculture and to transform it from a deficit to a profitable basis, through comprehensive agricultural reforms.

As the Report of the Rural Credit Survey has pointed out, the preponderating participation of the moneylender in agricultural finance and the size of his operation are an index to the size of the effort that will be needed on the part of the State to rectify a chronic maladjustment which is to the disadvantage of rural India. Until other sources of supply, particularly of co-operative credit, are organised, the moneylender is likely to elude the law for regulation and control of his operations[25]

---

[24] Report of the Committee of Direction, All-India Rural Credit Survey, Vol I, Part II (Credit Agencies) (1957), p 702

In the scheme of integrated rural credit recommended by the All-India Rural Credit Survey and accepted by Government, no place has been assigned to the private moneylenders The Report observes "it is certainly obvious that the moneylenders can be allotted no part in the scheme, important or significant, notwithstanding their dominance which today is overwhelming Thus it would be a complete reversal of the policies we have been advocating to give him a position in the co-operative banking structure when the whole object of attempting to develop and strengthen the structure is to provide a positive institutional alternative to the moneylender himself, something which will compete with him, remove him from the forefront and put him in his place" In fact the recommendation goes so far as to provide safeguarding measures for preventing the moneylender from getting into the co-operative society and using it for his benefit. It is also made clear that this recommendation is made not on the ground of any anti-social element in the transactions of the moneylenders but on the ground that the present malpractices of the moneylender are made possible by the absence of strong institutional competition When such competition is organised it is even hoped that the moneylender's usefulness will predominate over the less useful and more undesirable features of his present dominance. In this light, the Rural Credit Survey Committee recommended that the scheme of control over the moneylender's activities should be more realistic than the prevailing schemes of control in the different States Only under a proper scheme will the better type of moneylender have a chance to perform his functions without having recourse to the evasion of law The Report approves of the need for a review of moneylending legislation in different States, on the lines of the scheme of control proposed by the Agricultural Finance Sub-Committee Among the main proposals in the above scheme it is suggested that the rates of interest prescribed in the different legislative measures should be reviewed and revised in a realistic manner It is obviously futile to expect the moneylender to charge an interest which is lower than that prescribed as the maximum for co-operative societies and other institutions There is the need for a proper agency for the enforcement of the provisions of the Acts by providing for the necessary staff under the Registrar of Co-operative Societies

---

[25] For a fuller discussion of the problem, see the Report of the Committee of Direction, All-India Rural Credit Survey, Vol II, *Op cit*, p 328 and Chapter 41

In regard to the traders who combine moneylending with their other activities, it is suggested that with the development of co-operative marketing societies, and when a network of godowns and warehouses is created, the necessary healthy institutional competition in traders' operations will have evolved which will curb their harmful practices The trader, like the moneylender, will fall into a place not within the official scheme itself but in a role supplementary to it providing useful services to the producer The provision of warehousing and storage facilities would also help the commercial banks to lend substantially on agricultural commodities and create agricultural bills which will be negotiable and which the Reserve Bank can re-discount under Section 17(4) (d) of its Act Finally, the Report of the Rural Credit Survey visualises a period when by the development of the scheme of integrated rural credit as advocated, the 'rural debentures' of the land mortgage banks, which would be set up as a country-wide feature of credit organisation, would be an effective and attractive means of canalizing the savings of the people of means in rural areas, especially big cultivators and also the moneylenders This will in reality mean that to the extent there is such a diversion of saving, the agriculturist moneylender and professional moneylender instead of doing their own lending for purposes not necessarily productive and to persons not necessarily prompt in repayment will be lending to an institutional agency which can ensure both productiveness of purpose and promptness of repayment This is the possible point of contact which the Committee has viewed between the moneylender and the integrated scheme of rural credit[26]

---

[26] *Op cit*, p 485

CHAPTER XIII

THE ROLE OF CO-OPERATION

POLICY DEVELOPMENTS

Among the institutional agencies which provide finance to agriculturists, co-operatives are the most important As has been stated already, the co-operative movement in India was initiated by the Government of India in 1904 with the main object of freeing agriculturists from the grip of moneylenders and enabling them to secure production credit to the extent required by them at relatively cheap rates of interest Despite official sponsorship and efforts and devoted services of non-official co-operators, very little progress was achieved in this direction even after about fifty years of effort and the rural credit system continued to be dominated by private moneylenders, whose activities had a depressing influence on agricultural economy The need for formulating a long-term policy in regard to the framework of institutional arrangements for rural finance with a view to providing an effective instrument for agricultural development was keenly felt particularly after attainment of Independence and it was in this context that the Informal Conference on Rural Finance convened in 1951 recommended a detailed investigation of the position relating to rural credit on a national basis. In pursuance of this recommendation, the Reserve Bank of India appointed a Committee of Direction to conduct a comprehensive All-India Rural Credit Survey in August 1951. The investigations conducted by this Committee revealed that co-operatives supplied only about 3 per cent of the total borrowings of cultivators The Committee, however, felt that even if the record of the co-operatives in the sphere of agricultural credit emerged as defective in more than one way, the co-operative agency still remained, in many respects, by far the least unsatisfactory channel of credit to cultivator They, therefore, summed up their approach in the sentence. "Co-operation has failed but Co-operation must succeed." The Committee stressed that the reorganisation of agricultural credit in India must be based on some form of co-operative association of cultivators within the village itself

Discussing the causes of past failure of the co-operative movement, the All-India Rural Credit Survey Report[1] stated that the prescriptions for the reorganisation of co-operative credit hitherto made or tried may be described as attempts to rectify internal weaknesses of the credit structure without taking into account the weaknesses of the rural structure as a whole, much less its maladjustment of the external mechanism of urban trade and finance Most reforms of the co-operative movement, attempted or effected, were therefore in the nature of inevitably futile attempts to combine the weak against the strong in conditions in which the weak have had no chance It was stated, therefore, that the co-operative movement must be strengthened in a manner that would be effective against the competition and opposition of private trade and other private interests This could not be done from the internal sources or reorganisation of the co-operative structure Thus, the choice before co-operation was indefinitely to continue in various degrees to be unable to help itself or to be helped in order that eventually it may not only help itself but need no other outside help Such help in the initial stage could come only from the State. The manner of help as hitherto should not be merely administrative, which in fact meant over-administration and under-financing If co-operation was not to be merely a combination of the weak, what was needed was not merely State guidance and State aid but also State partnership with the co-operatives While recommending such a comprehensive State participation, the Report emphasised that every precaution should be taken to safeguard the essential character of the institution in which such participation took place and nothing was done which may lead to State interference in its day-to-day working Following this approach the Report recommended an Integrated Scheme of Rural Credit The fundamental principles on which the Scheme is based are [2]

---

[1] Report of the Committee of Direction, All-India Rural Credit Survey, Volume II — The General Report, *Op cit*, p 376

[2] *Ibid*, p. 378

(i) State partnership, including financial partnership, in co-operative rural credit in order that such credit may not only be expanded and strengthened, but expanded and strengthened for the positive purpose of production and for the positive benefit of the rural producer

(ii) State partnership, including financial partnership, for the benefit of the rural producer, in a programme for the organisation of processing and marketing on a co-operative basis and for the development of storage and warehousing and also in a programme for the organisation on a co-operative basis of such of the other economic activities of the village as are of importance to him as cultivator, agricultural labourer or handicraftsman, such as for instance, farming, irrigation, provision of seed and manure, transport, fisheries, milk supply, dairying, livestock-breeding and cottage industries

(iii) Designing of the extent and manner of State participation involved in State partnership as to ensure that, while responsiveness to the new policies is effectively created, every precaution is taken to safeguard the essential character of the institution in which such participation takes place and nothing is done such as may lead to State interference in its day-to-day working, recognition, further, so far as co-operative credit and co-operative economic activity are concerned, of the need so to regulate the extent of State partnership at different levels as (a) at the rural base to leave scope for the societies to become fully 'co-operative', within a measurable period, by the process of themselves replacing the State part of the share capital and (b) at the higher levels to retain what may be described as the major partnership of the State until such time, however long, as may be required in the interests of the co-operative organisation at the rural base which, before it develops sufficient strength, and for the purpose of developing such strength, will need, against the competition and opposition of private vested interests, and for various other reasons, a support which is at once powerful, sympathetic, financially adequate and technically competent

(iv) Training a new type of personnel altogether, which is not only technically qualified, but is also in its sympathies, attitudes and mental equipment rurally biased in order that the new functions devolving on the State by reason of the above may be discharged both efficiently and for the benefit of the rural population.

(v) Integration of, and the State's financial participation in, an important sector of commercial banking (*viz*, that which in various degrees is already associated with the State and which, if the banks concerned are made to come together, broadly covers the whole of India) in order that the State-partnered, country-wide banking institution so formed may, among other things, be charged with and carry out the positive duty of endeavouring to do its best to help the development of rural and co-operative banking It will be expected to discharge this duty by several means open to it including, principally, the effecting of arrangements for the readier and cheaper remittance of money, especially in relation to the relatively undeveloped areas which have been neglected by commercial banks and in which, without such facilities, no development of rural or co-operative banking is possible

As the co-operative institution at the primary level is the ultimate dispenser of credit to the cultivator, according to the Report, the future line of development of co-operative credit at the village level should be unhesitatingly in the direction of bigger societies covering larger areas It was recommended, therefore, that primary agricultural credit societies should hereafter be established or reorganised so as to cover, according to local conditions, groups of villages with a reasonably large membership and reasonably adequate share capital As a rule the area of operation of the society should be such as to provide it with adequate business Reorganisation of existing societies was to be attempted only where necessary In regard to fresh registrations of primary agricultural credit societies, the model adopted in regard to size, etc, should be the large size society with limited liability A large size society would have initially a minimum level of share capital which would be raised in a specified period to an optimum level The central co-operative bank would initially contribute to the primary credit society whatever amount was necessary for ensuring that the total share capital was not below the minimum level. For this purpose, the State Government would make the necessary finance available to the State co-operative bank. Another important aspect of the scheme was a reorientation of co-operative loan policy from property-nexus to production-nexus The production-orientated loan policy, 'the crop-loan system,' should form the basis for short term co-operative credit. Under this system, production would be the main purpose of the arrangements for finance, short term loans would be given on the basis that a crop is anticipated, not primarily that a title exists, the loans would be related in amount to the estimated outlay on raising the crops, and the recoveries would be made, as and when the crop is sold, from the proceeds of the sale To make these arrangements effective, there would be a close link between primary agricultural credit societies and marketing societies A primary society would finance its members on condition that their produce is sold through the marketing society to which it is affiliated The primary credit society would act as an agent for the sale of the produce to the nearest co-operative marketing society, assemble the produce of members, supervise and arrange for the transportation of the produce In order that the primary credit societies should be run in a businesslike manner, it was recommended that each of them should have, if possible, a paid full time qualified secretary Although each of the large size society was expected to be viable, in order to reach that stage, it was thought it might take some time. Thus a managerial subsidy for an initial period was considered desirable Under this scheme supervision of these societies would be invariably treated as the legitimate function of State and central co-operative banks.

Another important recommendation of the Report was that there should be progressive organisation, on a co-operative basis, of marketing and processing through the promotion of co-operative institutions of the appropriate type with the needed financial and other assistance from the all-India and State organisations Credit and marketing were not to be undertaken by the same organisation at any level For this purpose, constitution of the National Co-operative Development and Warehousing Board and establishment of the All-India Warehousing Corporation and State Warehousing Corporations were recommended Storage and warehousing should be developed through these State-partnered organisations at the all-India and State levels and, at other levels, through co-operative institutions of the appropriate type with the needed financial and other assistance from these all-India and State organisations

A State Bank of India should be set up through the amalgamation of the Imperial Bank of India and certain State associated banks This institution, by its programme of branch expansion, should be able to effect a substantial increase, especially in undeveloped areas, of facilities for cheap and ready remittance of money and provide responsive support to the co-operative structure connected with credit and economic activity, especially marketing and processing For the purpose of meeting the net additional cost involved in opening such branches as may initially be unremunerative and other expenditure on minor purposes in connection with these recommendations, constitution of an 'Integration and Development Fund' was recommended The Reserve Bank of India and the Central and State Governments were assigned an important role in the creation of an integrated rural credit structure, such participation amounting to certain direct responsibilities in the carrying out of policies and to overall planning, co-operation, etc For the orderly financing of the programme of development, the Report recommended constitution of the National Agricultural Credit (Long-term Operations) Fund and the National Agricultural Credit (Stabilisation) Fund in the Reserve Bank of India The Report also recommended creation of (a) the National Co-operative Development Fund and (b) the National Warehousing Development Fund, through contributions by the Government of India

After detailed consideration at various conferences culminating in the State Ministers' Conference held in New Delhi in April, 1955, the Integrated Scheme was approved and accepted as the basis for future development to be incorporated into the Second Five-Year Plan The general plan which was recommended for adoption was the reorganisation of co-operative structure by State participation in the share capital of co-operative institutions at all levels and the creation of necessary funds and administrative environments for the purpose. The Conference also recommended the initiation of pilot projects embodying the whole integrated scheme of co-operative development in two or three selected areas in a few States

In order to accelerate the implementation of the scheme relating to the development of marketing, processing and warehousing, conferences of representatives of State Governments and marketing organisations were convened at Hyderabad in November, 1955 and at Jaipur in February, 1956 At these conferences, it was suggested that marketing societies should be set up even in advance of large size credit societies, particularly in view of the fact that credit societies in future will be lending in large measure against anticipated crops and such loans would have to be recovered through co-operative marketing societies A well-defined programme of co-ordinated activity on the part of credit and marketing societies was laid down, according to which the credit society would be responsible for the supply of production loans and would act as a feeder to the marketing society, and the marketing society, in turn, would sell the produce and act as a recovering agent for the credit co-operative The work of construction of godowns was to be expedited Recommendations were also made in regard to the provision of services ancillary to marketing These recommendations formed the basis of the programme for co-operative development included in the Second Five-Year Plan to which a reference is made later.

The more recent developments in the sphere of rural credit were enunciated in the resolution of the National Development Council on co-operative policy passed at its meeting held in New Delhi in November, 1958 The resolution emphasised that "for the development of co-operation as a people's movement, it was essential that co-operatives should be organised on the basis of the village community as the primary unit, and that responsibility and initiative for social and economic development at the village level should be placed fully on the village co-operative and the village panchayat" The Council urged the State Governments to review their present programmes of co-operative development and formulate fresh programmes to be implemented during the next two years

A Working Group on Co-operative Policy was subsequently set up for considering the administrative and organisational arrangements required for implementing the above-mentioned resolution of the National Development Council. The Working Group submitted its report in January, 1959 The important aspects of the future co-operative policy and the pattern of organisation as envisaged by the Government of India on the basis of the recommendations of this Working Group were as under

(1) The village panchayat and the village co-operative society will be the primary agencies for carrying out the community development programme While the panchayat is an administrative body, the co-operative society will be essentially a business organisation There should be the fullest co-ordination between them and an appropriate division of their respective functions

(2) Co-operative societies should be organised on two patterns, one for general adoption and the other for adoption in special circumstances Pattern No 1 envisaged organisation of service co-operatives on the basis of one village but where the villages are too small and the people are agreeable a society may be organised for two or more villages provided the total population covered is about 1,000 Pattern No 2, which was complementary and not an alternative to Pattern No 1, envisaged organisation of credit unions covering a group of villages besides a non-credit society in each of the villages covered by the union These latter societies will undertake all other activities except credit

(3) There should be no State participation in the share capital of village societies But the State Government, if it considers this necessary may contribute to the share capital of the credit unions No more large size societies should be organised Assistance in respect of share capital, managerial subsidy, etc , should, however, continue to be available to all large size societies organised before April, 1959

(4) State Governments should adopt a policy of progressively making facilities for supply of seeds, fertilizers, etc , available only to members of village societies, which will serve as an inducement to every villager to join the society in his village

(5) Credit should be linked up with production programmes on the one hand, and, for its recovery, with co-operative marketing on the other Therefore, the programme of organising and developing marketing and processing societies should be accelerated

(6) All *takavi* loans, apart from distress loans, should as far as possible be channelled through co-operative institutions

The question of providing adequate credit, through co-operatives to cultivators for increasing agricultural production was further considered at the Conference of State Ministers of Co-operation held in Mysore in July, 1959. This Conference recommended that an expert committee should be set up by the Government of India to examine the whole question and make concrete suggestions as to how to expand credit for agricultural production Accordingly, the Government of India appointed in September, 1959, a Committee under the Chairmanship of Shri V L Mehta The Committee made a number of recommendations which were generally accepted by the Government of India The important features of the co-operative policy formulated on the basis of this Committee's report are (1) Though as a general rule, co-operatives would be organised on the basis of the village community as the primary unit, the number of villages to be covered by a society might be increased in the interest of viability where villages are small, subject to the condition that the villages should not be situated at a distance of more than 3 to 4 miles from the headquarter village, (2) The State might participate in the share capital of primary agricultural credit societies under certain conditions, the maximum contribution being ordinarily limited to Rs. 5,000, (3) In order to encourage co-operatives to admit all classes of cultivators as members, Government might make certain outright grants to primary societies and central co-operative banks for being credited to a 'special bad debt reserve' fund to cover the risks involved, (4) The service co-operatives would continue to get a management subsidy, subject to the maximum of Rs 900 spread over a period of 3 to 5 years, (5) All short and medium term loans up to Rs 500 would be given without mortgage of landed property

A more recent important development in the sphere of co-operative credit policy is in regard to finance supplied by Government to cultivators for schemes of agricultural development. In order to avoid over-financing of cultivators because of two institutional sources of credit operating almost independently in the villages and also to minimise misutilisation of loans through more efficient supervision and effective recovery, a Committee was appointed to go into this problem of *takavi* loans and co-operative credit. The Committee submitted its report in August, 1962 The policy of routing *takavi* loans through co-operatives according to a carefully phased programme, in pursuance of the recommendations in this behalf made by the Committee, has now been accepted by the Government of India and the State Governments have been advised to take suitable action in this direction

IMPLEMENTATION AND PROGRESS

The Role of the Reserve Bank of India in Co-operative Credit

Prior to Independence, the role of the Reserve Bank in the sphere of rural credit was mainly confined to examining the lines on which the co-operative movement could be reorganised The credit made available to State and central co-operative banks was restricted in the first few years mainly to assisting the State co-operative banks to tide over a temporary shortage of funds, since the Bank acted mainly as the lender of last resort The post-Independence period saw a radical change in the Reserve Bank's conception of its own role and actual policies and practices with regard to rural credit The recommendations of the Rural Banking Enquiry Committee (1950) and the Informal Conference of co-operators, economists and others convened by the Bank in 1951 resulted in a liberalisation of the facilities for accommodation to the co-operative institutions. After the publication of the Report of the All-India Rural Credit Survey in 1954, the Reserve Bank was assigned to play a significant role in not only providing adequate credit at the concessional rate of interest but in building up a strong credit structure in the country

In respect of short term agricultural production finance, the responsibility for extension of credit through co-operatives is virtually assumed by the Reserve Bank of India. Under the Reserve Bank of India Act, credit limits are granted against two good signatures by the Bank to State and central co-operative banks against the security of promissory notes and/or Government guarantee These State co-operative banks, in turn, finance the central co-operative banks which in their turn finance the primary credit societies The short term finance extended to co-operatives by the Reserve Bank showed a phenomenal rise to about Rs 298 crores during the year 1963-64 as compared to Rs 143 crores in 1960-61 and only Rs 12 crores in 1951-52.

TABLE I

SHORT TERM LOANS FROM THE RESERVE BANK TO STATE CO-OPERATIVE BANKS FOR SEASONAL AGRICULTURAL OPERATIONS AND MARKETING OF CROPS*

(Rupees in crores)

Year (July-June)	Amount sanctioned	Amount drawn during the year	Amount outstanding at the end of the year
1951-52	12 4	12 1	6 5
1955-56	29 6	25 6	13 0
1960-61	111 8	142 9	100 9
1963-64	186 2	298 2	146 6

Source Role of the Reserve Bank of India in Rural Credit, Reserve Bank of India (1964)

* Under Sections 17 (4) (a), (2) (b) or (4) (c) of the Reserve Bank of India Act

A substantial part of the above accommodation is provided for production and the remaining for marketing of crops. While development of co-operative marketing is mainly the responsibility of the Union Government, the financing of marketing co-operatives is undertaken by the Reserve Bank The short term finance for production and marketing is advanced by the Reserve Bank to State co-operative banks at the concessional rate of interest which is 2 per cent below the Bank rate

The Reserve Bank has been empowered after the amendment of the Reserve Bank of India Act in 1953 to give medium term loans to the co-operative sector For the first few years the total amount of such loans (outstandings) was subjected to a ceiling limit of Rs 5 crores In pursuance of the recommendations of the Rural Credit Survey Report, the National Agricultural Credit (Long-term Operations) Fund was constituted in

1956 with an initial contribution of Rs. 10 crores and an annual recurring contribution of Rs 5 crores This was later raised to Rs 10 crores in the years 1959-60 and 1960-61 and further increased by Rs 1 crore each in the next three years The amount to the credit of the Fund was Rs 86 crores as on June 30, 1964 After the Fund has been created medium term loans are given only out of the amounts credited to this Fund. Medium term loans given by the Reserve Bank to State co-operative banks have increased from about Rs 1 crore in 1955-56 to Rs 9 crores in 1960-61 and further to Rs 13 crores in 1963-64 The medium term finance is provided at the concessional rate of 1½ per cent below the Bank rate

TABLE II

MEDIUM TERM LOANS FROM THE RESERVE BANK FOR AGRICULTURAL PURPOSES*

(Rupees in crores)

Year (July-June)	Amount sanctioned	Amount drawn during the year	Amount outstanding at the end of the year
1955-56	1 4	0 9	1 0
1960-61	4 7	5 7	8 8
1963-64	14 0	7 5	12 9

Source Role of the Reserve Bank of India in Rural Credit, *Op cit*

* Under Section 17(4AA) read with Section 46A(2) (b) of the Reserve Bank of India Act

Long-term financial assistance is also made available by the Reserve Bank to the co-operative land mortgage banks which are purveyors of long-term credit, *i e*, generally for a duration of 10 years and more. The central land mortgage banks generally float debentures which are mainly of two types, *viz*, ordinary debentures and rural debentures In regard to the former, the Bank has been subscribing up to 20 per cent of the total issue or the actual shortfall whichever is less In the case of rural debentures which are intended for issuing long-term loans to agriculturists by mobilising savings, mostly in the rural areas, the Bank subscribes to the extent of 8/15th of the series at a uniform rate of interest of 4 per cent per annum as against 5 per cent per annum, on the remaining 7/15th subscribed by the individual rural investors More recently, the Bank has also agreed to subscribe as a measure of support on an experimental basis, to 'special development debentures' issued by the central land mortgage banks for financing development schemes involving huge financial outlays and longer gestation periods

TABLE III

RESERVE BANK'S SUBSCRIPTION TO THE DEBENTURES OF LAND MORTGAGE BANKS

(Rupees in lakhs)

Year (April-March)	Rural debentures of land mortgage banks		Ordinary debentures of land mortgage banks	
	Purchases	Outstandings	Purchases	Outstandings
1951-52	—	—	13	31
1955-56	—	—	10	73
1958-59	27	27	4	77
1960-61	33	1,07	3	67
1963-64	74*	3,59*	3,34	6,16

Source Report on Currency and Finance, 1962-63 and 1963-64

* Figures of purchases and outstandings include special development debentures of Rs 4 lakhs and Rs 18 lakhs, respectively.

In order to place the agricultural credit system of the country on a more rational basis and to strengthen the financial position of credit co-operatives, the Reserve Bank has been taking several measures such as advancing of loans to State Governments to participate in the share capital of co-operatives and assisting the State Governments in rehabilitation of the co-operative movement The outstanding problems relating to co-operative movement in respect of each State are kept under constant review by the Bank and are also discussed at the meetings of the Standing Advisory Committee on Agricultural Credit and at special meetings with the representatives of the Co-operative Department and the co-operative institutions of each State

The accommodation provided by the Reserve Bank to State Governments for contribution to the share capital of various co-operative credit institutions increased from Rs 1.6 crores in 1956-57 to Rs 28 3 crores in 1963-64. These funds are given out of the National Agricultural Credit (Long-term Operations) Fund In addition, as recommended by the All-India Rural Credit Survey Committee, the Bank has also set up the National Agricultural Credit (Stabilisation) Fund with a view to maintaining fluidity and liquidity of the co-operative banking system so that the confidence of the depositors and other creditors in these institutions is not disturbed. The Fund was established in June, 1956 with an initial contribution of Rs 1 crore and Rs 1 crore is being credited to it annually since then from the Bank's profits The amount to the credit of the Fund stood at Rs 9 crores as on June 30, 1964 Out of this Fund, the Reserve Bank can give loans to State co-operative banks to enable them to convert short term loans into medium term loans in the event of their not being able to meet the dues owing to natural calamities However, there has been no occasion to draw upon this Fund so far

TABLE IV

LONG-TERM LOANS FROM THE RESERVE BANK TO STATE GOVERNMENTS FOR CONTRIBUTION TO THE SHARE CAPITAL OF CO-OPERATIVE CREDIT SOCIETIES

(Rupees in crores)

Year (April-March)	Amount drawn during the year	Amount outstanding at the end of the year
1956-57	1 6	1 6
1960-61	2 7	20 0
1963-64	3 3	28 3

Source Report on Currency and Finance, 1962-63 and 1963-64

The Reserve Bank plays an important role in assisting co-operative sugar factories since 1957-58 The Bank provides accommodation to State co-operative banks for financing working capital requirements of co-operative sugar factories Drawals for this purpose amounted to about Rs 15 crores during 1962-63 (April-March) In 1963-64, the State co-operative banks did not draw any amount for this purpose. The Bank can also assist State co-operative banks in financing the purchase by small and medium cultivators of the shares in co-operative sugar factories The total amount outstanding in respect of such loans stood at Rs 10 lakhs in 1963-64

Another sphere of agricultural production in which the Reserve Bank has been actively associated is the Intensive Agricultural District Programme popularly known as the Package Programme Under the programme, an intensive effort is being made to approach farmers through co-operatives and panchayats with a view to promoting the adoption of a minimum combination of improved practices, by making available credit, seeds, manures, etc In this connection the Reserve Bank has endeavoured to keep in view three main objectives, namely, (i) strengthening the financial position and operational efficiency of the co-operative credit structure at the primary and district levels, (ii) rationalisation of the loan policy and procedures of central banks to fit in with production-based credit programme, and (iii) making co-operatives the most active participants in the agricultural improvement programme For financing the scheme, the Reserve Bank grants additional credit limits to State co-operative banks at 2 per cent below the Bank rate

In addition, the Reserve Bank also extends short term concessional finance to handloom co-operatives at 1½ per cent below the Bank rate It also provides short term finance for purchase and sale of yarn to handloom co-operatives at the Bank rate Further, the Reserve Bank gives at the Bank rate credit to co-operatives for general banking purposes The total amount outstanding at the end of March, 1964 in respect of various types of credit extended by the Bank to co-operatives was about Rs. 174 crores.

TABLE V

RESERVE BANK CREDIT TO CO-OPERATIVES 1963-64

(Rupees in lakhs)

	Purpose	Amount outstanding at the end of March, 1964
A	Loans to State Co-operative Banks	
	Short term	
	(i) Seasonal agricultural operations and marketing of crops (at 2 per cent below Bank rate)	120,49
	(ii) Production and marketing of handloom products (at 1½ per cent below Bank rate)	4,87
	(iii) Purchase and sale of yarn (at Bank rate)	79
	(iv) Meeting working capital requirements of co-operative sugar factories (at Bank rate)	—
	(v) General banking purposes (at Bank rate)	70
	Medium term	
	(i) Agricultural purposes (at 1½ per cent below Bank rate)	8,64
	(ii) Financing agriculturists for purchase of shares in co-operative sugar factories (at Bank rate)	10
B	Loans to State Governments for contribution to share capital of co-operative credit institutions*	28,32
C	Investment in debentures	
	(i) Rural debentures	3,42
	(ii) Ordinary debentures	6,16
	(iii) Special debentures	18

Source Report on Currency and Finance, 1963-64

* Rate of interest charged to State Governments in respect of these loans is nil per cent for the first two years, 2 per cent during the next 3 years, 2½ per cent for the next 4 years and 3 per cent during the next 3 years

To sum up, the Reserve Bank has undertaken the responsibility for not only extending short term production and marketing finance to agriculturists through co-operatives but also for meeting, to the extent possible, the need of agriculturists for medium term and long-term production finance as also the credit requirements of other rural residents for meeting expenditure connected with production of handloom cloth

The State Bank of India and Rural Credit

In pursuance of the recommendations of the Rural Credit Survey Report, the State Bank of India was established on July 1, 1955 by the transfer to it of the assets and liabilities of the Imperial Bank of India The main objective of establishing the State Bank of India was the "creation of one strong, integrated, State-sponsored, State-partnered commercial banking institution with an effective machinery of branches spread over the whole country which by further expansion (including further, but minor amalgamation where necessary) can be put in a position to take over cash work from non-banking treasuries and sub-treasuries, provide vastly extended remittance facilities for co-operative and other banks, thus stimulating the further establishment of such banks, and generally, in their loan operations in so far as they have a bearing on rural credit, follow a policy which, while not deviating from the canons of sound business, will be in effective consonance with national policies as expressed through the Central Government and the Reserve Bank."[3] More specifically, in regard to rural credit it was further envisaged that the State Bank of India would endeavour to be responsive to the needs of co-operative institutions connected with credit and especially marketing and processing and that its branch expansion would be co-ordinated, and wherever possible positively associated, with the development of co-operative credit from the point of view specially of the provision of cheap remittance facilities

As regards branch expansion programme, the State Bank of India Act, 1955 provided for opening of not less than 400 branches within a period of five years beginning from July 1, 1955 This statutory obligation was fulfilled within the specified time limit and in fact the Bank opened 416 branches by end of June, 1960 The second branch expansion programme of the Bank and its Subsidiaries provided for opening of 300 new branches during 1960-65, 145 by the Bank and 155 by the Subsidiaries In addition to this programme it was later decided to open 319 branches within a period of 5 years from January 1, 1964. At the close of 1964, the Bank and its Subsidiaries had

---

[3] All-India Rural Credit Survey, Vol II — The General Report, *Op. cit*, p 404

1147 and 612 offices, respectively The rapid extension of branches covering particularly the semi-urban and rural areas has enabled the Bank and its Subsidiaries to provide cheaper remittance facilities in these areas and thereby assist the development of co-operative credit

In the sphere of rural credit, the Bank provides direct finance to marketing and processing co-operatives in areas where there is little or no near prospect of the central co-operative banks being able to provide prompt and adequate finance at reasonable rates of interest to these societies Where the central co-operative banks are in a position to finance these societies, the Bank finances only those societies which seek the assistance of the Bank with the consent of the central financing agencies and the Registrar of Co-operative Societies so that the basic relationship between the central co-operative banks and the co-operative societies is not disturbed The Bank generally grants advances against pledge and repledge of agricultural commodities for meeting the working capital requirements of marketing and processing co-operatives In suitable cases clean advances for limited amounts are also granted In addition the Bank grants medium term loans for periods ranging up to 7 years to processing co-operatives and industrial co-operatives which already have borrowing arrangements with it for their requirements of working capital and wish to obtain finance for purposes of expansion, modernisation, etc

Among processing co-operatives co-operative sugar factories are offered certain special facilities These include provision of interim accommodation by way of clean loans on the guarantee of the concerned State Government pending the disbursement of loans granted to them by the Industrial Finance Corporation, granting of advances against pledge of sugar stocks and readily saleable stores, provision of clean credit facilities for limited amounts for meeting their working capital requirements and establishing letters of credit and, where necessary, deferred payment guarantees for covering the import of capital goods and machinery on the security of the general assets of the factory and/or the guarantee of the respective State Governments

The Bank has also been actively associated with the warehousing development scheme and has subscribed to the share capital of the Central Warehousing Corporation to the fullest extent (*i e*, Rs 1 crore) provided for in the Agricultural Produce (Development and Warehousing) Corporations Act, 1956 While implementing its branch expansion programme, the Bank has also been endeavouring to co-ordinate it with the warehousing scheme. It also took initiative in evolving appropriate procedure for granting advances by banks against the security of warehouse receipts It offers a slightly lower rate on advances against the security of warehouse receipts to co-operative banks and societies Outstanding advances granted by the Bank against the security of warehouse receipts amounted to Rs 206 lakhs at the end of September, 1964

It has also been assisting the development of land mortgage banking in the country by providing financial assistance to these banks, through (1) subscription to the debentures issued by co-operative central land mortgage banks, (2) granting advances on the security of such debentures with a view to improving the marketability and popularity of these debentures in the money market and (3) provision of interim financial accommodation to co-operative central land mortgage banks against Government guarantee in order to help them carry on their normal loan business pending the raising of funds through floatations of debentures

The Bank grants, though on a relatively limited scale, advances to State and central co-operative banks against authorised Government securities and debentures of co-operative central land mortgage banks at a concessional rate of ½ per cent below the Bank's Advance Rate The Bank also affords other general facilities such as liberalised and extended remittance facilities, etc Industrial co-operatives are granted accommodation on the pledge of acceptable raw materials and finished goods, clean accommodation on the guarantee of State Governments, apex, central or industrial co-operative banks It has also decided recently to grant advances to co-operative wholesale stores against the pledge of stocks

TABLE VI

FINANCIAL ASSISTANCE PROVIDED BY THE STATE BANK OF INDIA TO CO-OPERATIVE INSTITUTIONS AS ON SEPTEMBER 30, 1964

(Rupees in crores)

Type of institution		Amount outstanding
1	Marketing and processing societies	0 2
2	Co-operative sugar factories	2 1
3	Co-operative banks	3 4
4	Co-operative central land mortgage banks	3 6
5	Industrial co-operatives	0 2
6	Other co-operative institutions	0 1
	Total	9 7

Source The Annual Report of the State Bank of India, 1964

The financial assistance to all types of co-operative institutions aggregated Rs 9 7 crores at the end of September, 1964 The marketing and processing societies, however, accounted for a very small proportion of the total credit provided by the State Bank of India Some of the factors which hamper progress in financing marketing and processing co-operatives are related to (i) deficiencies in the co-operative marketing sector such as lack of marketing societies which can be financed on the basis of the soundness of their financial position, (ii) lack of suitable godowns, (iii) procedural delay relating to repledge and in releasing goods from godowns located at some distance from the office of the State Bank and (iv) legal difficulties such as the absence of statutory provision for the registration of a charge against the assets of a society on the lines of the provision for registration of charges against the assets of limited companies under the Companies Act

Apart from opening of branches, provision of the ordinary banking services and the mobilisation of savings through depositors' accounts in rural areas, the Bank made available large volume of finance for the procurement of foodgrains as well as other agricultural produce. In the sphere of rural credit, marketing and processing credit there was a gradual increase in contribution made by the Bank Recently the Bank has approved a scheme of Rural Pilot Centres with a view to assisting in the provision of credit for production, agricultural and industrial, in rural areas It is proposed to open 50 to 70 centres distributed over the whole country In addition to the usual items of banking services and mobilisation of savings, such centres will seek to fill in, on a pilot basis, the gaps and inadequacies, if any, in the existing rural credit institutions The financing arrangements will, of course, be co-ordinated with the programme of reorganisation of co-operative credit and the operations of co-operative banks and societies in the areas to be covered.

Warehousing Development

An important aspect of the integrated scheme of rural credit and hence of co-operative development plans, relates to the promotion of warehousing facilities and rural economic activity, *e g*, marketing and processing, organised on a co-operative basis An account of warehousing development is given in the next chapter

STRUCTURE OF AND TRENDS IN CO-OPERATIVE CREDIT

The short and medium term co-operative credit structure, as it has evolved in our country, is federal in character, consisting of three tiers, *viz*, the State co-operative banks at the State level, the central co-operative banks at the district level and primary co-operative credit societies at the village level Together, these institutions are expected to constitute an integrated system for mobilising resources and be an effective means of supplying credit The long-term credit structure consists of two tiers only, *viz*, central land mortgage banks at the State level and primary land mortgage banks at the district level Some important features of their structure, functions and role in providing credit are discussed in the following paragraphs

State Co-operative Banks

The constitution of a co-operative banking institution at the apex level was considered essential as early as in 1915. The Maclagan Committee emphasised the need for having an apex bank in each major province to co-ordinate and regulate the working of central co-operative banks The apex bank at the State level operates as a balancing centre for the resources of the movement in the entire State At the top of the federal structure, it derives its strength from its affiliated institutions and gives, in return, the strength earned as a result of its contacts with the monetary structure of the country It is its federal character which ensures that it functions in such a manner that all felt needs are fairly met and at the same time its financial soundness is not jeopardised by careless lending, poor recoveries, etc The apex bank provides the link between the Reserve Bank of India and the money market on the one hand and the entire co-operative credit structure on the other It acts as the custodian of the surplus resources and the reserves of the central co-operative banks and supplements them by attracting sizable deposits and by obtaining loans from the Reserve Bank of India Under the scheme of co-operative agricultural credit developed in the country, the State co-operative bank has been considered such a vital link that it has been given a status comparable to that of a scheduled bank and, for certain purposes, the central financing agencies have been treated as its branches The fact that the apex and central banks are different legal entities, though closely interrelated, is a factor of protection to an outside agency which provides funds to the system in that there is a cushion and guarantee in the shape of resources and the supervising machinery at both the apex and central co-operative banks. The State co-operative bank, therefore, occupies a key position in the entire structure of short term and medium term co-operative credit

There were 21 State co-operative banks functioning in all States and Union Territories except Goa and Andaman and Nicobar Islands at the end of 1962-63. The total paid-up share capital of the State co-operative banks was Rs 23 18 crores as on June 30, 1963 against Rs. 18 24 crores and only Rs. 1.90 crores on June 30, 1961 and June 30, 1952, respectively. Thus between the years 1951-52 and 1962-63, there was a more than ten-fold increase in the paid-up share capital of State co-operative banks With the initiation of the Integrated Scheme of Rural Credit, the State Governments started contributing to the share capital of co-operative banks, although in one State, *viz*, the pre-reorganised Bombay this policy was adopted as early as in 1949 The amount of State contribution to share capital is available since 1955-56 and the available data indicate that the

State contribution to share capital increased from Rs. 1 88 crores in 1955-56 to Rs 6.46 crores in 1960-61 and further to Rs 8 63 crores in 1962-63 The reserves also increased substantially from Rs 2 36 crores on June 30, 1952 to Rs. 8 76 crores as on June 30, 1963 Between 1951-52 and 1962-63, the increase in the deposits was of the order of Rs 76 13 crores while borrowings increased by as much as Rs 141 crores There was a steady rise in the working capital (total of paid-up share capital, reserves, deposits and other borrowings) from Rs 36 72 crores in 1951-52 to Rs. 221 65 crores in 1960-61 and further to Rs. 281.51 crores in 1962-63 Table VII gives the comparative composition of the working capital as on June 30, 1952, 1956, 1961 and 1963. Although in absolute amounts there has been an increase in each of the constituent items of the working capital over the last decade, the proportion of owned funds to working capital was steady around 11 per cent As against a substantial rise in borrowings, the rise in deposits continued at a rather slow rate. As a result in terms of percentages to working capital, other borrowings increased from 31 per cent to 54 per cent during the period 1951-52 and 1962-63 while deposits declined from 58 per cent to 35 per cent during the corresponding period Borrowings from Reserve Bank had become a major source of borrowing forming 49 3 per cent of the working capital in 1962-63 as against only 18 7 per cent in 1951-52 The loans outstanding increased during the same period from Rs 20 01 crores to Rs 214 09 crores (Table VIII) Though the rise was moderate till 1955-56, the subsequent rise was more marked, being about six times the 1955-56 level

A feature of the advances portfolio of these banks was a decline in the proportion of outstanding loans held by individuals and others from 9 per cent in 1951-52 to 3 per cent in 1962-63. The amount of overdues showed an increase from Rs. 3 22 crores as on June 30, 1952 to Rs. 8 24 crores as on June 30, 1963, though in terms of percentage to outstandings there was a fall from 16 per cent to 4 per cent.

Central Co-operative Banks

The position of central co-operative banks is of crucial importance in the co-operative credit structure. They form an

TABLE VII

WORKING CAPITAL OF STATE CO-OPERATIVE BANKS

(Rupees in crores)

Item	June 30, 1952		June 30, 1956		June 30, 1961		June 30, 1963	
	Amount	Percentage to working capital	Amount	Percentage to working capital	Amount	Percentage to working capital	Amount	Percentage to working capital
1 Working capital	36 72	100 0	63 34	100 0	221 65	100 0	281 51	100.0
2 Owned funds	4 26	11 6	7 65	12 1	24 00	10 8	31 95	11 3
3 Deposits	21 18	57 7	36 67	57 9	72 33	32 6	97 31	34 6
4 Borrowings from								
(i) Government	1 81	4 9	4 70	7 4	6 00	2 7	10 08	3 6
(ii) Reserve Bank	6 85	18 7	14 07	22 2	113 82	51 4	138 87	49 3
(iii) Other sources	2 59	7 1	0 25	0 4	5 50	2 5	3 30	1 2

Source Statistical Statements relating to the Co-operative Movement in India for the years 1951-52 1955-56 1960-61 and 1962-63, Reserve Bank of India

TABLE VIII
LOANS OUTSTANDING OF STATE CO-OPERATIVE BANKS

(Rupees in lakhs)

	As at the end of			
	1951-52	1955-56	1960-61	1962-63
Co-operatives	18,18	32,14	162,80	208,37
	(91)	(92)	(98)	(97)
Individuals and others	1,83	2,63	3,89	5,72
	(9)	(8)	(2)	(3)
Total	20,01	34,77	166,69	214,09
Of which overdue	3,22	3,70	6,97	8,24
	(16)	(11)	(4)	(4)

Source Statistical Statements relating to the Co-operative Movement for the respective periods

Note Figures in brackets indicate percentages to total

important link between the State co-operative bank at the apex and the primary agricultural credit societies at the base The Maclagan Committee suggested that the term "central bank" should be applied to all local financing institutions directly financing the primary societies, "within an area sufficiently limited to allow them to exercise also the duties of supervision and control over these societies" The Standing Advisory Committee on Agricultural Credit constituted by the Reserve Bank recommended that as a general proposition, there should be one central co-operative bank for one district This view was also expressed by the Rural Credit Survey Committee. A programme of rationalisation of the central co-operative banking structure was taken up in the States during the Second Plan period through a process of merger or amalgamation of uneconomic or weaker units with a view to establishing one strong viable central bank in each district Although good progress was made in this direction there are still some areas in the country where some weak banks continue to function because of their reluctance for various reasons to amalgamate with the stronger banks in the district

Central banks are the intermediate agency between the primary credit societies at the village level run by the agriculturists having no touch with the money market and the State co-operative banks run mainly from the metropolitan cities, having little direct association with the countryside This agency is closer to the primary societies than an apex bank could be and affords opportunities to them for influencing its policies to suit their requirements and enables them to train themselves in sound banking principles and practices The central bank's primary function is to mobilise the resources in the district for financing its members to the maximum extent possible in addition to channelling the flow of funds from the State co-operative bank

The number of central co-operative banks in the country declined from 509 in 1951-52 to 386 in 1962-63 mainly due to the process of amalgamation and reorganisation referred to above The paid-up share capital of the central banks recorded a substantial increase from Rs 4 62 crores at the end of 1951-52 to Rs 55 10 crores by the end of 1962-63, the rise being marked since 1956-57 largely due to the increased State contribution to share capital of these institutions The available data since 1956-57 on ownership of share capital show that the share capital held by Government increased from Rs 1 26 crores in 1956-57 to Rs. 14.98 crores in 1962-63. The total reserves of these banks showed a gradual rise from Rs 5 19 crores to Rs 17 17 crores The composition of the working capital of these banks shows an increasing dependence on funds borrowed from apex banks as will be seen from Table IX

The trends in the constituent items of working capital of central co-operative banks are more or less same as in case of State co-operative banks In terms of percentages to working capital, the owned funds were steady around 16 to 18 per cent, deposits declined from 64 per cent to 36 per cent while the borrowing showed an increase from 20 per cent to 46 per cent during the period 1951-52 and 1962-63

The volume of fresh advances made by central co-operative banks showed a considerable increase from Rs 105 64 crores in 1951-52 to Rs. 440 56 crores in 1962-63. Their outstanding loans as on June 30, 1963 amounted to Rs. 292 13 crores of which Rs. 288.69 crores were due from societies and Rs 3.44 crores from individuals and others (Table X) Though in terms of amount, the overdues were much higher in 1962-63 than in 1951-52, as proportion of outstandings they rose to 18 per cent which was higher by 5 per cent over their proportion as on June 30, 1952.

TABLE IX

WORKING CAPITAL OF CENTRAL CO-OPERATIVE BANKS

(Rupees in crores)

Item	June 30, 1952		June 30, 1956		June 30, 1961		June 30, 1963	
	Amount	Percentage to working capital	Amount	Percentage to working capital	Amount	Percentage to working capital	Amount	Percentage to working capital
1 Working capital	60 11	100 0	92 67	100 0	304 05	100 0	400 12	100 0
2 Owned funds	9 81	16 3	15 15	16 4	50 87	16 7	72 28	18 1
3 Deposits	38 24	63 6	55 71	60 1	112 02	36 8	145 64	36 4
4 Borrowings	12 07	20 1	21 80	23 5	141 17	46 4	182 20	45 5

Source Statistical Statements relating to the Co-operative Movement in India, *Op cit*

TABLE X

LOANS OUTSTANDING OF CENTRAL CO-OPERATIVE BANKS

(Rupees in lakhs)

	As at the end of			
	1951-52	1955-56	1960-61	1962-63
Co-operative societies	32,85 (91)	50,86 (94)	216,37 (98)	288,69 (99)
Individuals and others	3,06 (9)	3,48 (6)	3,66 (2)	3,44 (1)
Total	35,91	54,34	220,03	292,13
Of which overdue	4,78 (13)	7,88 (15)	27,43 (12)	52,89 (18)

Source Statistical Statements relating to the Co-operative Movement in India, *Op cit*

Primary Agricultural Credit Societies

The primary credit society forms the base of the co-operative credit structure and on its working depends, to a large extent, the soundness of the whole co-operative credit structure The village credit society is the best agency to inculcate the habit of thrift, self-help and mutual help among its members It is engaged in securing for its members services of various kinds. It has to keep the concepts of mutuality and ethical dealings in mind and ensure sufficient social cohesion

The primary agricultural credit societies cover different types of credit societies, though the common feature of all these different societies is that most of their members are agriculturists The group includes (1) large size societies which include rural banks, agricultural banks and credit unions, (2) service co-operatives and (3) other small size societies The small size societies constitute a composite category and include single purpose as well as multipurpose societies Shifts in the policy regarding the type, size and functions of the primary credit societies during the last decade to which a reference has already been made have influenced the pattern of organisation of societies Though the Rural Credit Survey Report recommended the organisation of large size societies, in the present co-operative development policy, on the basis of which the district development plans are formulated, the emphasis is on promotion and development of service co-operatives The primary functions of a service co-operative are provision of short and medium term credit, supply of agricultural and other production requirements and collection of agricultural produce for sale through the marketing society In addition to these functions, these co-operatives help in the formulation and implementation of village plans for increasing agricultural production Though organisation of large size societies has been discontinued, those which were already organised are allowed to continue Thus, three types of societies, *viz*, large size, erstwhile small size and the newly organised service co-operatives continue to exist at present in most of the States

The primary agricultural credit societies which constitute the largest single group of societies in the country increased from 1 08 lakhs to 2 11 lakhs during the period 1951-52 and 1962-63 Of the total number of societies, 65 per cent were of limited liability type in 1962-63 as compared to only 29 per cent in 1951-52 Though in some States a large number of villages was technically covered by the societies, the extent of effective coverage was small as there was a large number of dormant societies, their number constituted about 19 per cent of the total number of societies in 1962-63 Moreover, in case of many of the working societies, their activities were largely confined to the headquarter villages The membership of agricultural credit societies was 217 lakhs at the end of 1962-63 as against 48 lakhs at the end of 1951-52 Although the membership has been technically thrown open to all classes of cultivators, it has been observed that in many areas the membership mainly comprises of big and medium land holders, the proportion of small land holders being very small Further, the bulk of tenant-cultivators still continue to remain outside the co-operative fold

The primary agricultural credit societies made some progress in building up their resources during the last decade Though State contribution was, to some extent, responsible for the increase in the total share capital, the increase in membership during the period was also a contributory factor The mobili-

TABLE XI

WORKING CAPITAL OF PRIMARY AGRICULTURAL CREDIT SOCIETIES

(Rupees in crores)

	June 30, 1952		June 30, 1956		June 30, 1961		June 30, 1963	
	Amount	Percentage to total	Amount	Percentage to total	Amount	Percentage to total	Amount	Percentage to total
1. Working capital	45.22	100.0	79.10	100.0	273.92	100.0	370.03	100.0
2. Owned funds	17.67	39.1	29.25	37.0	75.55	27.6	101.61	27.5
3. Deposits	4.40	9.7	7.05	8.9	14.59	5.3	20.33	5.5
4. Borrowings	23.15	51.2	42.80	54.1	183.78	67.1	248.10	67.0

Source Statistical Statements relating to the Co-operative Movement in India, *Op cit* sation of deposits by these societies being meagre, they depended to a large extent on the borrowing from the central co-operative banks

An analysis of the data show that the average membership per society for India as a whole rose from 44 at the end of 1951-52 to 103 at the end of 1962-63, the increase being particularly noticeable during the Second Five-Year Plan period The average share capital and deposits per society and per member have shown sharp rises during the same period, still the average level continued to be low as can be seen in Table XII.

TABLE XII

PRIMARY AGRICULTURAL CREDIT SOCIETIES
ALL-INDIA AVERAGES

(Amount in rupees)

	As at the end of			
	1951-52	1955-56	1960-61	1962-63
1 Membership per society	44	49	80	103
2 Working capital per society	4,190	4,946	12,913	17,526
3 Share capital				
(a) per society	827	1 051	2,722	3,766
(b) per member	19	22	34	37
4 Deposits				
(a) per society	408	441	688	963
(b) per member	9	9	9	9

Source· Statistical Statements relating to the Co-operative Movement in India, *Op cit*

The advances of these societies to their members increased more markedly since the introduction of the Integrated Rural Credit Scheme as may be seen from Table XIII.

TABLE XIII

PRIMARY AGRICULTURAL CREDIT SOCIETIES
CREDIT OPERATIONS

Year	Loans advanced during the year		Loans outstanding at the end of the year (rupees in crores)	Loans overdue at the end of the year (rupees in crores)	Overdues as percentage of outstandings
	Total (rupees in crores)	Average per member (Rs)			
1951-52	24 21	51	33 66	8 52	25
1955-56	49 62	64	59 84	14 96	25
1960-61	202 75	119	218 00	44 30	20
1962-63	257 37	118	302 78	77 18	25

Source Statistical Statements relating to the Co-operative Movement in India, *Op cit*

Loans advanced per member which rose from Rs 51 to Rs 64 from 1951-52 to 1955-56 almost doubled between 1955-56 and 1962-63 The position regarding overdues, however, had been showing a disquieting trend

Land Mortgage Banks

For provision of long-term credit to agriculture a separate co-operative organisation has been set up and it is known as the land mortgage banking system This is a two tier organisation with the apex bank at the State level and the primary banks at the district/taluka level Long-term credit is provided to agriculturists on the security of land which is mortgaged to the bank The period of loan varies from 10 to 20 years The resources of these banks are mainly collected through floatation of debentures, which are guaranteed as to the principal and interest by the State Government concerned. The Rural Credit Survey Report recommended establishment of a central land mortgage bank in each State and continuance of the two tier structure.

While the set up of the long-term credit structure is the same at the apex level, *i e*, a central land mortgage bank in each State, there is a considerable variation in the organisation below that level In Madras, Andhra Pradesh and Mysore, the operational unit below the State level is a primary land mortgage bank at the taluka level In the Saurashtra region of Gujarat and in Bihar, the apex land mortgage bank advances loans directly to individuals through its branches. In Maharashtra, Punjab, Madhya Pradesh, Travancore-Cochin area of Kerala, Uttar Pradesh, Rajasthan and West Bengal, primary land mortgage banks are organised at the district level. In Madhya Pradesh, areas not served by primary land mortgage banks are financed by central co-operative banks through their land mortgage banking sections

There were 19 central land mortgage banks and 571 primary land mortgage banks in the country at the end of 1962-63 as against 6 central land mortgage banks and 289 primary land mortgage banks at the end of 1951-52 Of the 19 central land mortgage banks, one in Rajasthan was dormant As stated already, the central land mortgage banks raise the funds required by them largely by the issue of debentures while primary land mortgage banks obtain funds mainly from the central land mortgage banks The progress achieved by the land mortgage banks in India during the last decade may be seen from Table XIV

A noteworthy feature of the advances portfolio of central land mortgage banks during 1962-63 was that out of the total of Rs 24 62 crores, as much as Rs 13.36 crores were for land improvement and Rs 6 78 crores for purchase of machinery The loans for debt redemption were Rs 3 49 crores This was in contrast to the position before the planning era started, when the most predominant purpose of loans was redemption of old debts

TABLE XIV

FINANCIAL POSITION AND LOAN OPERATIONS OF LAND MORTGAGE BANKS

(Rupees in crores)

Item	Central Land Mortgage Banks				Primary Land Mortgage Banks			
	1951-52	1955-56	1960-61	1962-63	1951-52	1955-56	1960-61	1962-63
1 Number of Banks	6	9	18	19	289	302	463	571
2 Membership Banks and societies	404	491	696	730	—	—	—	—
Individuals (in thousands)	34	90	2,74	3,72	2,14	3,14	6,69	10,51
3 Working capital	10 17	18 53	47 60	85 85	7 59	11 35	26 99	55 02
4 Loans made during the year								
Banks and societies } Individuals	2 51	2 83	7 18	18 33	—	—	—	—
			4 45	6 30	1 30	1.74	7 17	19 19
5 Outstandings at the end of the year.								
Banks and societies } Individuals	8 05	13 08	23 53	49 00	—	—	—	—
			13 08	18 89	6 96	10 51	24 66	51 36

Source: Statistical Statements relating to the Co-operative Movement in India, *Op cit*

AGRICULTURAL REFINANCE CORPORATION

It is observed that the land mortgage banks because of their meagre resources and existing institutional framework were not in a position to finance specific area development or similar other projects for agricultural development As the expenditure on such projects will be heavier in the initial stages the scale of finance will have to be much higher than that permissible under the existing rules The gestation period of each scheme will vary with the type of crops raised. Thus the initial investments, made out of borrowings, can be repaid only after a period of years; and the repayment schedule itself will have to provide for deferred repayments of principal and interest The implementation of such development projects will need technical guidance, inter-departmental co-operation and close supervision of a far higher order than that is made available by the existing structure of the land mortgage banking system

The need for providing finance for development of plantation crops was also emphasised by the Conference of Land Mortgage Banks held in September, 1960 and the Standing Advisory Committee on Agricultural Credit It was pointed out that the commercial banks could not undertake the responsibility of providing long-term loans for such special schemes unless refinancing facilities were made available to them These considerations led to the establishment of the Agricultural Refinance Corporation on July 1, 1963

The Corporation has an authorised share capital of Rs 25 crores divided into 25,000 fully paid-up shares of Rs 10,000 each In the first instance, 5,000 shares valued at Rs 5 crores were issued of which an amount of Rs. 2 50 crores was subscribed by the Reserve Bank, Rs 1 50 crores by State co-operative banks, and central land mortgage banks and Rs 1 crore by the scheduled banks, investment and insurance companies The shares are treated as trustee securities and are guaranteed by the Central Government as regards repayment of principal and payment of an annual dividend, fixed at 4¼ per cent in the case of the first issue. The Government of India gave an interest-free loan of Rs 5 crores to the Corporation, the repayment of which would commence only after 15 years The Corporation is also empowered to borrow from the Reserve Bank (for a period not exceeding 18 months) and from the Central Government and other institutions approved by the Government It can issue bonds and debentures and accept fixed deposits for 12 months and more The maximum borrowing power of the Corporation through all these sources is limited to 20 times its paid-up capital and reserve fund

The Corporation will grant financial assistance for schemes of (a) land reclamation, preparation of land for full utilisation of irrigation facilities, (b) development of special crops such as arecanut, coconut, cashewnut, cardamom, coffee, tea, etc, and

(c) development of mechanised farming, use of electricity for tube-wells, pump sets and development of animal husbandry, dairy farming, pisciculture and poultry farming Besides being economic, the schemes to be financed will have to be commercially paying, pertaining to specified areas and specified crops, they should also be compact and composite ones, susceptible to close and intensive supervision and evaluation Further, the schemes should be capable of being worked through the existing co-operative structure All State co-operative banks, central land mortgage banks and scheduled banks as are shareholders of the Corporation are eligible for financial assistance, which will be mainly by way of refinance to the borrowing institutions In special cases where a loan for financing a particular activity is considered necessary, the Corporation might directly finance those co-operative societies which are approved by the Reserve Bank for that purpose The Corporation would grant medium term loans (3 to 5 years) and long-term loans (for over 5 years, up to 15 years and in exceptional cases up to 20 years) at 5½ per cent per annum (subject to revision), the minimum amount being limited to Rs 1 lakh During the year ended 1963-64 the Corporation has approved four schemes of agricultural development, involving a total financial outlay of Rs 637 50 lakhs

MARKETING SOCIETIES

The co-operative marketing societies numbering 12,374 as at the end of June 1962 accounted for 3.6 per cent of total co-operative societies in India As much as 74 3 per cent of these societies are specialised societies dealing in sugarcane.

Policy and Development

The first phase in development of co-operative marketing societies covered a decade and half during the World War II and post-war period Under conditions of control and rationing most of the societies functioned as agents for procurement and distribution of controlled foodgrains and other articles With the lifting up of the control since 1951-52 and the emergence of free market many societies went out of operation and those existed concentrated on distribution of such commodities as fertilizers, etc. The period beginning from decontrol to the introduction of the Second Five-Year Plan was a transitional period for marketing co-operatives during which period except the single commodity societies like cotton sale societies in Maharashtra and Gujarat and few isolated societies in other areas, marketing societies in general were actually inoperative

As early as 1946, the Co-operative Planning Committee emphasised the necessity for planned development of co-operative marketing societies and laid down certain overall targets The Committee recommended that within ten years, the co-operative marketing societies should be able to sell 25 per cent of marketable surplus of agricultural produce and for this purpose there should be 2,000 marketing societies, 11 provincial marketing societies and an All-India Marketing Association[4] The development of storage and warehousing capacity, increased State aid and assistance were also envisaged and specific recommendations were made in regard to each of these aspects These recommendations, however, were not fully implemented The First Five-Year Plan emphasised the need for developing marketing societies But no appreciable progress was made during the First Plan period The Rural Credit Survey Report recommended a series of measures for planned development of co-operative marketing societies in the agricultural sector This included State participation in share capital of marketing societies, establishment of the National Co-operative Development and Warehousing Board, the Central Warehousing Corporation, etc, to which a reference has been made already The Second Five-Year Plan incorporated many of the recommendations of the Rural Credit Survey Report and set forth targets and formulated specific schemes for development of co-operative marketing The Second Plan envisaged a target of 1,800 primary marketing societies to be organised and 1,500 godowns to be constructed The National Co-operative Development and Warehousing Board was established in 1956 to act as the chief agency for planning and promoting development schemes relating to marketing societies The Third Five-Year Plan had gone a step further inasmuch as it fixed targets not only in terms of the number of societies to be organised but also relating to quantity of produce to be handled by co-operatives The progress in the working of co-operative marketing societies is discussed in the next chapter

---

[4] Report of the Co-operative Planning Committee appointed by the Government of India on the Recommendation of the Fourteenth Registrars' Conference (1946), pp. 64-65

NON-CREDIT CO-OPERATION

Co-operative movement in the non-credit sphere of agriculture received an impetus during the World War II period, although sporadic attempts were made earlier when the organisation of credit co-operatives was taken up The impetus during the war arose mainly from the desire of improving the conditions of the cultivators and helping them in activities allied to agricultural production Agricultural non-credit co-operation received a further stimulus during the Second Five-Year Plan period when the co-operative movement as a whole was considered an instrument of agricultural development and for that matter State partnership was provided on an increasing scale Since then co-operation in agricultural non-credit sphere has been continuously growing The main activities under agricultural non-credit co-operation are to enlarge the area of cultivation, to adopt improved agricultural production techniques through the use of improved seeds, chemical fertilizers, irrigation facilities and to render all possible assistance in activities allied to agriculture such as fisheries, animal husbandry, poultry, etc Thus, in the rural sector agricultural non-credit co-operation would comprise farming, irrigation, milk, fisheries societies, etc

Co-operative Farming Societies

The Co-operative Planning Committee which presented its report in 1946 broadly classified the co-operative farming societies into four categories, namely, better farming, joint farming, collective farming and tenant farming societies In fact, the place of co-operative farming in one or more of these forms in the reconstruction of the India's rural economy has been subject of serious consideration The Nagpur Resolution of January, 1959 of the Congress Party lent support to the organisation of co-operative joint farming and suggested that the future agrarian pattern should be based upon this form of co-operative organisation With a view to forming a practical programme for implementation of this resolution, the Working Group on Co-operative Farming was appointed in 1959. In its report, the Working Group emphasised the need for flexibility in approach in the organisation of co-operative farming societies and suggested that such societies be organised on a voluntary basis The subsequent deliberations at various levels led to the emergence of the scheme of the pilot project consisting of about ten co-operative farming societies in every district during the Third Five-Year Plan period. At the end of June 1961, there were 6,325 societies distributed as follows among its various categories.

1	Joint farming societies	2,080
2	Collective farming societies	1,104
3	Better and Tenant farming societies	3,141
	Total	6,325

As on June, 1962, the number of joint farming societies increased to 2,381 by 301 societies, whereas their total membership reflected an increase from 51 to 56 thousand during 1961-62 The number of members working full time and part-time were 21 and 10 thousand, respectively, in June, 1962 The area commanded by these societies was 3 65 lakh acres of which 2 73 lakh acres were under cultivation Value of production and their sales amounted to Rs. 1 10 crores and Rs 1 35 crores, respectively, during 1961-62 The collective farming societies too displayed a significant improvement during 1961-62, their number having increased from 1,104 to 1,196 and their membership from 37 to 41 thousand Area commanded and cultivated by these societies during 1961-62 was 1 97 and 1.12 lakh acres, respectively. Value of sales and production were of the order of Rs 47 lakhs and Rs. 42 lakhs, respectively

Of the total 3,577 (joint and collective) farming societies in 1962, the State-wise distribution was Punjab · 979, Maharashtra 585, Uttar Pradesh 510, Rajasthan 335, Assam 223 and Gujarat · 200 The remaining 20 per cent of the societies were distributed over States like Andhra Pradesh, Bihar, Kerala, Madhya Pradesh, Madras, Mysore, Orissa, West Bengal, Jammu & Kashmir and six Centrally Administered States. In Punjab and Uttar Pradesh, and to a smaller extent in Rajasthan, the trend is towards the organisation of joint farming in preference to collective farming societies In Gujarat, Assam and Maharashtra, the trend is towards the organisation of collective farming societies Among these important States, only Maharashtra and Rajasthan have maintained some balance between the two categories of farming societies

In Punjab co-operative farming is of recent growth, the number of societies rising from 441 in June, 1956 to 979 in June, 1962 The number of better farming societies as on June, 1961 were 139 During 1961-62 the joint and collective farming societies together covered a commanded area of 1 28 lakh acres of which 1 15 lakh acres were cultivated Their membership was 17 thousand of which 11 thousand was accounted for by land holders Most of these societies were said to be organised by the landlords and big farmers in order to avail of the financial assistance from Government and the benefits of ceiling limit on land holdings as applicable to co-operatives Another feature of the farming societies in Punjab was that machinery and implements were important than land and buildings Punjab ranked first both in the value of foodgrains produced and sold by the farming societies

Farming societies in Uttar Pradesh are the result of a scheme launched for the first time in 1953-54 Since then their number continued to grow gradually from 104 in 1953-54 to 220 in 1955-56, and further to 510 at the end of 1961-62 Their total membership comprised 7 thousand land holders and among the remaining 4 thousand most of them were agricultural labourers. There were 9 thousand working members and two-thirds of them were engaged in full time field operations Area commanded and cultivated by these societies was 0 96 lakh and 0 71 lakh acres

In Maharashtra, the organisation of co-operative farming societies have been undertaken under a scheme since 1949 But in 1952-53 stress was laid on the consolidation rather than expansion Later, the scheme of service co-operatives gave a further impetus to the expansion of farming societies in Maharashtra. Their membership was 13 thousand in June, 1962 An interesting feature is that unlike in Punjab and Uttar Pradesh, nearly two-thirds of the membership was drawn from agricultural labourers Nearly 11 thousand of the members were working and as many as 7 thousand were engaged in full time field operations It may be mentioned that there is a wide gap between the area commanded (0 96 lakh acres) and area cultivated (0 54 lakh acres) by the farming societies in Maharashtra as compared to the societies in Punjab and Uttar Pradesh

Irrigation Co-operatives

The credit for organisation of the irrigation co-operatives goes to Bengal which is faced with the problem of over-population on one hand and for conservation of its water resources on the other The problem of protection of arable lands from floods during rainy season is another reason leading to the organisation of irrigation co-operatives As an experimental measure, the first society was organised in 1919 and during subsequent years the progress in regard to organisation of irrigation societies has been rather phenomenal. Partition of Punjab and Bengal in 1947 provided a further stimulus to the organisation of such societies Prior to the Partition, no need was felt for such societies in Punjab because of the existence of an excellent net-work of canals completed during the British regime With the Partition the then existing net-work of canals went to the share of West Pakistan and an acute need was felt for increasing irrigation facilities in the State The idea of providing facilities through co-operatives in Punjab was given practical shape in 1948-49 when a few Zamindar residents of Gurgaon district decided to pool their resources for sinking a percolation well Subsequently, efforts were made to extend co-operation to sinking of tube-wells With the result a number of tube-wells were installed by the irrigation societies, mainly in the districts of Amritsar, Ferozepur, Jullundur and Ambala The number of irrigation societies in the country at the end of 1961-62 stood at 1,469 having an aggregate membership of 55 thousand and covering a commanded area of 2 73 lakh acres The number of irrigation societies in the several States were, Uttar Pradesh. 487, West Bengal 287, Punjab 238, Gujarat 155, Maharashtra 119 and Andhra Pradesh: 43 Of the 487 societies in Uttar Pradesh as many as 390 societies were dormant in 1961-62. Most of the remaining societies had installed only tube-wells In Punjab three-fourth of the societies had installed tube-wells and the remaining were canal irrigation societies

Irrigation societies in Uttar Pradesh covered in 1961-62 a membership of about 8 thousand and commanded area of about 21 thousand acres In terms of membership and commanded area, West Bengal ranked second and third, respectively, next only to Maharashtra The commanded area of the irrigation societies in Punjab was the highest at about 85 thousand acres and their total membership was 7 thousand Large proportion of the area commanded in Punjab was irrigated and it is one of the few States where the societies have been functioning relatively with great success Membership of societies in Gujarat was only 5 thousand and covered a commanded area of about 24 thousand acres One of the important feature of the societies in Gujarat is that the value of their assets like land, buildings, plant and machinery were relatively high next only to Maharashtra The value of plant and machinery alone was Rs 35 lakhs and that of land and buildings about Rs 10 lakhs in Gujarat

In the matter of membership, Maharashtra ranked first whereas its rank was second next only to Punjab in the case of commanded area The value of plant and machinery of irrigation societies in Maharashtra was Rs 53 lakhs and that of land and buildings about Rs 24 lakhs Irrigation societies in Andhra Pradesh covered a membership of about 7 thousand and commanded area of 21 thousand acres Although in terms of number and coverage Andhra Pradesh does not occupy any significant place, the scheme to develop the Musi Irrigation Project area through co-operatives has given fillip to irrigation co-operatives in the State Taken all the States together, the value of irrigation works executed up to the end of 1961-62 was Rs 1 66 crores Maharashtra and Gujarat alone accounting for Rs 1 20 crores Of the irrigation societies, 322 worked on profit and most of them were situated in Gujarat and Punjab, 690 societies incurred neither loss nor earned any profit during 1961-62 and most of them came from Uttar Pradesh and West Bengal, whereas 457 societies worked on loss during 1961-62 Most of the societies incurring loss were situated in West Bengal

Milk Co-operatives

Milk unions and societies have been organised in several States particularly in Maharashtra, Gujarat, Uttar Pradesh, Madras and West Bengal, in order to provide ready market to the cultivators on one hand and to supply unadulterated milk at moderate rates to consumers in the urban areas on the other The societies in the producing areas are generally affiliated to the milk unions situated in or nearer to the urban area for the purpose of distribution and sale of milk In some cases the unions undertake manufacture of milk products, such as, ghee, milk powder, cheese, etc Except the Kaira District Milk Producers' Union, no other union had taken up the pasteurisation of milk on a large scale The Kurnool Milk Supply Union has also facilities for the pasteurisation of milk on a small scale A number of unions undertook activities such as, supply of cattle feed, provision of veterinary aid and improvement of cattle breeds, etc However, a few unions in Andhra Pradesh possess some equipments for the manufacture of butter, ghee and cheese These products are manufactured by them in winter when the supply of milk is plentiful The Government in various States are providing financial assistance by way of loans and subsidies to acquire pasteurisation plants and other necessary equipments and also managerial assistance to milk unions

At the end of June 1962 there were 99 milk supply unions, of which 24 were situated in Maharashtra, 21 in Madras, 16 in Andhra Pradesh and 10 each in Uttar Pradesh and Kerala The number of primary societies and individuals affiliated to these unions was 3,000 and 15,000, respectively In Madras, Uttar Pradesh and Maharashtra there was preponderance of societies and in Kerala there was preponderance of individuals in the membership of milk unions During 1961-62, these unions purchased milk worth Rs. 4 88 crores, and sold milk and milk products of Rs 4 45 crores and Rs 2 16 crores, respectively. Milk unions in Uttar Pradesh were situated in important cities like, Lucknow, Allahabad, Varanasi, Kanpur, Meerut, etc The problem of surplus milk in Uttar Pradesh was not as acute as it was in Andhra Pradesh since most of the societies affiliated to the unions in Uttar Pradesh had the facilities of converting milk into butter, ghee and cheese However, unions in Uttar Pradesh experienced some difficulties in selling their products in open market due to competition from the private traders

Apart from these milk supply unions, there were about 3,945 milk supply societies covering a membership of 3 14 lakhs Of these, as many as 1,222 covering a membership of 1 37 lakhs were situated in Madras State The value of milk purchased by about 4 thousand societies was Rs 6 61 crores and their sales of milk and milk products amounted to Rs 7.48 crores and Rs 0 19 crore, respectively Although Madras State is leading in the number and membership of milk societies, the value of milk purchased and milk sold was the highest at Rs. 2 57 crores and Rs 3 03 crores in Gujarat This State also accounted for over 70 per cent of sales of milk products of the societies

In addition to milk unions and milk supply societies, there were 8 ghee unions, 7 in Uttar Pradesh and 1 in Madhya Pradesh during 1961-62 Membership of the ghee unions comprised 304 primary societies and 123 individuals Apart from these unions, there were primary societies that were engaged in the conversion of ghee and these numbered 207 during 1961-62 Of these, as many as 191 were situated in Uttar Pradesh

Fisheries Societies

Most of the fishermen's societies are concentrated in States that are aligned with the coast At the end of June, 1962 there were 2,538 fishermen's societies with an aggregate membership of 2 68 lakhs Most of these societies were situated in West Bengal, Andhra Pradesh, Madras, Kerala, Assam and Maharashtra

Although in terms of membership, West Bengal ranked first but in terms of value of assets owned by the societies it has not made any improvement It appears that most of the societies in West Bengal are small and undertake catch on their own account In Andhra Pradesh 407 fishermen's societies were functioning during 1961-62 with a membership of 44 thousand However with the introduction of the system of auctioning fishing rights over water courses, the co-operatives were reported to be in a disadvantageous position The main function of the fisher men's societies in Madras is confined to the acquisition of land rights over water courses The members of the societies sell their catch on individual accounts in open markets A beginning has, however, been made by the members of the Mettur Dam Fishermen's Co-operative Marketing Society for pooling the catches and selling them to vendors at contracted rates The scheme for providing modern fishing boats, nylon nets, quick transport vans to bring catch to the market has been launched through the federations of fishermen's co-operatives The scheme also envisages construction of curing sheds and godowns In Kerala, a joint project of Governments of India and Norway for the development of marine fishing has been launched at Quilon The project envisages the introduction of mechanised fishing off the Kerala coast, training of local fishermen, boat building and setting up of an ice and cold storage plant A sales organisation covering all the co-operatives of the 'Project Area' has been registered

Crop Protection Societies

Bombay is the only State which had organised a number of crop protection societies The number of such societies in the State was 158 at the end of June, 1958 The cropped area covered by these societies was 4 53 lakh acres

WEAVERS CO-OPERATIVES

Among the different types of industrial co-operatives in India, the weavers co-operatives constituted the largest single group in rural areas, the organisation of which dated back to the year 1905 in Madras State The emphasis on co-operative development of village industries by the Royal Commission on Agriculture in 1928 followed by the decision of the Government of India in 1934 to revive the handloom industry by giving subsidies to the Provincial Governments stimulated interest in such co-operatives A further fillip to the organisation of weavers co-operatives was given by the recommendation of the Fact Finding Committee in 1940 to co-operativise the handloom industry and the distribution of yarn by the Government through these societies during the World War II and the post-war years. The Government of India in its 1948 Industrial Policy Resolution also emphasised the importance of giving a distinctly co-operative bias to cottage and small scale industries. At the beginning of 1952, however, the handloom industry encountered an unprecedented crisis arising from the slump in handloom cloth trade There was curtailment or stoppage of production on wider scale with consequent unemployment among the weavers The steps to rehabilitate the handloom industry comprised (a) the constitution of the All-India Handloom Board, (b) the levy of an additional excise duty on mill-made cloth and (c) ensuring a market for handloom cloth The general principles drawn up by the Handloom Board for grant of financial assistance which was to be largely channelled through co-operatives were (i) advancing loans to weavers to enable them to contribute to the share capital of co-operative societies, (ii) helping weavers societies with working capital and (iii) setting up of marketing depots and inter-State depots

Although the accepted pattern of the structure of weavers co-operatives was one of primary societies at the village level and apex societies at the State level, in some areas there were central societies at the district level also The primary societies were broadly classified into production and service societies In production societies goods were produced and sold on societies' account, the profit and loss being borne by the societies themselves In the service societies, goods were produced by members on their own account and profit or loss was borne by the individual members The central societies were to supply raw materials and to arrange for marketing of cloth produced by primary units These activities though similar to those of the apex societies were limited to smaller area of operation There has been more than two-fold increase in the number and scale of operation of weavers societies during the years 1950-51 to 1961-62, the rise being relatively more pronounced during the Second Plan period The number of primary societies rose from 4,791 at the end of 1950-51 to 7,995 at the end of 1955-56 and further to 12,222 at the end of 1961-62 The central and apex societies rose from 44 to 120 and from 9 to 19 respectively during the same period Membership recorded nearly 100 per cent increase to 12.19 lakhs in the case of primary societies State-wise distribution of weavers societies showed that out of 12,732 societies at the end of 1962-63, Uttar Pradesh accounted for

1,640, Assam 1,533, Madras 1,129, Bihar 1 063, Rajasthan 1,004, Andhra Pradesh 999, West Bengal 995 and Punjab 955 Regarding membership, the States are not in the same order and out of 13 23 lakh members, Andhra Pradesh with 2 6 lakhs stood first followed by Madras (2 3 lakhs), Bihar (1 4 lakhs), Mysore and Uttar Pradesh (1 2 lakhs) Production of handloom cloth rose from 1,450 million yards in 1956 to about 2,100 million yards in 1963[5] The number of handlooms registered within the co-operative field increased from 11 6 lakhs in 1957-58 to 12 6 lakhs in 1961-62 According to the available information, about two-third and more looms were brought in co-operative fold in the States of Andhra Pradesh, Bihar, Mysore, Rajasthan, Uttar Pradesh and Madhya Pradesh The number of such looms in Gujarat, Maharashtra and West Bengal exceeded 50 per cent of the total Assam stood at the bottom with only 6 per cent of the looms in co-operative fold The value of finished goods sold by primary societies at Rs 42 51 crores in 1961-62 showed a more than three-fold increase since 1950-51

Apart from owned funds, the resources of handloom co-operatives consisted of funds borrowed from Government out of the Cess Fund created under the Khadi and Other Handloom Industries Development (Additional Excise Duty on Cloth) Act 1953 and from the central banks out of funds received by them from the Reserve Bank of India through the apex banks The State Governments were sanctioned two-year loans up to 87½ per cent of the value of shares subject to a maximum of Rs 100 on condition that weavers contributed 12½ per cent from their own resources Such share capital loans amounted to Rs 44 6 lakhs[6] during the period 1953-56 and to Rs 78 9 lakhs during the Second Plan period, *i e*, 1956-1961 The amount of working capital loans from the Cess Fund disbursed during the First Plan period totalled Rs 533 5 lakhs It was felt that societies should borrow loans from institutional financing agencies Therefore, the Government on the recommendation of the Credit Facilities Committee decided that with effect from April 1, 1957 the working capital of weavers co-operatives for production and that of apex societies for marketing of handloom cloth should be made available by the Reserve Bank of India through the apex and central co-operative banks

---

[5] Report of the Powerloom Enquiry Committee, Government of India (1964)

[6] Report of the Working Group on Handloom Industry, Government of India (1959)

Accordingly, the Reserve Bank of India has been providing working capital funds under Section 17(2)(bb) of the Reserve Bank of India Act at 1½ per cent below the Bank rate. Finance is provided on the basis of their actual requirements subject to a ceiling of Rs 500 per loom after taking into account the other resources available to the societies Loans drawn for this purpose during 1963-64 amounted to Rs 488 lakhs as against Rs 49 lakhs in 1957-58 Besides these funds, the Bank also provided working capital loans at the Bank rate to the apex weavers societies under Section 17(2)(a) for trading in yarn The apex societies in the States of Andhra Pradesh, Madras, Maharashtra and Madhya Pradesh were sanctioned Rs 85 lakhs during 1963-64 and the outstanding loan as on March 31, 1964 was Rs 79 lakhs It was however observed that the progress in the drawal and utilisation of funds from the Reserve Bank of India under its scheme was not quite satisfactory Hence the Reserve Bank of India in consultation with the All-India Handloom Board introduced a pilot scheme in 1960-61 in selected areas in different States for intensive development of handloom co-operatives

Besides the loans by the Government and the Reserve Bank of India, Government also provided grants and subsidies to weavers for various developmental 'and promotional purposes amounting to Rs 326 8 lakhs in 1960-61, the bulk of which comprised rebate on sales

Sales of goods produced by primary societies besides their own were undertaken to some extent by apex societies and these sales were sizable only in Andhra Pradesh, Madras, Maharashtra and Mysore Sale depots and emporia have been opened in various States for the promotion of sale of handloom cloth produced by weavers societies With a view to stepping up these sales the All-India Handloom Fabric Marketing Society has been sponsored by the All-India Handloom Board and the development of inter-State and international trade has been entrusted to this society It has already opened 'Handloom Houses' in Bombay, Madras and Calcutta In order to boost up exports Government has sanctioned a scheme of incentives under which exporters of handloom cloth including those of co-operatives have been enabled to obtain licences for the import of coal tar, dyes, textile chemicals, cotton yarn, etc Further to enable the co-operative sector to participate in export trade a scheme has been drawn up for the creation of a development fund which would be utilised for giving direct technical assistance both in the form of equipment materials and staff to co-operative societies selected to participate in export drive and also for holding over goods produced by them till such time export orders for these items are received

TARGETS AND ACHIEVEMENTS DURING PLAN PERIODS

We have discussed the developments in co-operative policy during the period since Independence and have reviewed the implementation and progress of these policies in several fields of co-operative activity It may be useful to find out the extent of achievements in relation to the targets set in the first two Five-Year Plans and the rate of progress during the early years of the Third Plan

The First Five-Year Plan had set up targets only in regard to co-operative credit of the order of Rs 100 crores of short term, Rs 25 crores of medium term and Rs 5 crores of long-term finance As against this, Rs 50 crores were disbursed as short term and medium term loans and the outstandings in respect of long-term loans reached about Rs 3 crores at the end of the Plan period

In the Second Five-Year Plan, the target for membership was placed at 15 million (which was subsequently revised to 20 million) for co-operative credit at Rs 200 crores (Rs 150 crores for short term and Rs 50 crores for medium term) and for long-term loans (outstandings) at Rs 25 crores During the period of first two Plans, the number of primary agricultural credit societies rose from about 1 08 lakh in 1951-52 to about 2 12 lakhs in 1960-61 and their membership from 4 8 million to 17 million The short and medium term credit dispensed by agricultural credit societies was of the order of Rs 202 75 crores at the end of 1960-61 Of the loans issued during 1960-61, Rs 182 82 crores were short term loans, while Rs 19 93 crores were medium term loans. Thus, the achievement in respect of short term credit exceeded the target laid down in the Second Plan whereas there was a shortfall of about Rs. 30 crores in respect of medium term loans provided by the primary agricultural societies. As against the target of Rs. 25 crores (outstandings) in respect of long-term credit, the outstandings at the end of 1960-61 were to the extent of Rs. 37.74 crores. Thus, the agricultural credit sector of the co-operative movement registered a substantial progress during the Second Plan period.

In the Third Five-Year Plan, co-operatives have been assigned a vital role in implementing agricultural production programmes. Targets are laid down in respect of number of societies, coverage, short term, medium term and long-term credit marketing, processing, etc. The targets for short term and medium term credit and long-term credit are placed at Rs. 530 crores (subsequently revised to Rs. 512 crores) and Rs. 150 crores, respectively, in the Third Plan.

According to the Mid-term Appraisal of the Third Five-Year Plan on Co-operation, on current trends, there is likely to be a shortfall in the targets for co-operative credit. The total volume of short term and medium term loans advanced through the primary agricultural credit societies is estimated at Rs. 256 crores during the year 1962-63 and in the last year of the Third Plan it is not likely to exceed Rs. 400 crores as against the target of Rs. 512 crores. The shortfall in long-term credit would be even more pronounced. The total amount of long-term loans (outstandings) is estimated at Rs. 67 crores in 1962-63 as against the Third Plan target of about Rs. 150 crores. This is mainly attributed to the weaknesses in the co-operative credit structure, the most prominent of these being the rising trend in overdues, which affected the ability of co-operatives to mobilise deposits as also to secure the financial accommodation from the Reserve Bank of India. The overdues in some cases had resulted from adverse seasonal conditions but more often from the absence of energetic action for timely recovery and the inability of various units of the structure to fulfil the functions expected of them such as linking of credit with marketing, proper supervision and inspection, etc.

CHAPTER XIV

AGRICULTURAL MARKETING, PROCESSING AND WAREHOUSING

INTRODUCTION

Traditional agricultural marketing in India was by and large inefficient in operation and exploitative in character Measures for improving the conditions in the agricultural markets were undertaken following the recommendations of the Royal Commission on Agriculture in 1928 The Commission observed "it cannot be said that the agricultural departments have been able to give substantial help in securing the best possible financial return for his (cultivator's) quality and increased outturn Except to a limited extent where improved quality is concerned, they have regarded the problems connected with the marketing of produce as outside their purview "[1] The Commission also discussed malpractices existing in the markets and described them as nothing but 'common theft' To eliminate these malpractices and to ensure better return to the producer the Commission recommended regulation of markets

MARKET FUNCTIONARIES

Existence of a number of middlemen at different stages of marketing is an important feature of agricultural marketing in India. At the village level is the village merchant He enjoys a unique position of power in rural areas chiefly on account of the financial assistance, in cash or in kind, which he is able and generally willing to provide to the cultivator in times of necessity. Then there are itinerant merchants who tour the villages during the harvest and purchase the produce from cultivators Sometimes big cultivators and landlords in the villages also buy the produce of small cultivators and undertake its marketing

In the assembling markets, there are commission agents and wholesale merchants Some commission agents act mainly as intermediaries between the primary producer and the buyer in the assembling markets, while others buy the produce in the assembling markets mainly for consignment to centres of consumption. The former are known as *kacha Arhatiya* and the latter as *pakka Arhatiya*. In some cases the functions of these two types of *Arhatiyas* overlap.

---

[1] Report of the Royal Commission on Agriculture in India (1928), p 381

After the produce has been assembled, it has to be distributed so as to reach the consumer. Wholesalers in consuming centres, brokers, exporters and retailers participate in the distribution process. Wholesalers and exporters buy the produce from commission agents in the assembling markets. Sometimes exporters and big wholesale firms have their buying organisation in important producing centres.

ASSEMBLING

The relative importance of different agencies in the assembling of produce varies from place to place and crop to crop. In the case of rice the position, on all-India basis, was as shown in Table I.

TABLE I

ASSEMBLING AGENCIES (RICE)

	As Percentage of Total Marketable Surplus in India
Growers	13.6
Big cultivators	2.1
Landlords	6.8
Village merchants	15.2
Itinerant merchants	15.4
Professional dehuskers	3.3
Wholesale merchants	19.2
Rice mills	13.1
Co-operative societies	0.1
Total	**88.8**
Direct distribution in villages and *shandies*	11.2
Grand Total	100.0

Source: Report on the Marketing of Rice in India, Second Edition, Directorate of Marketing and Inspection, Ministry of Agriculture, Government of India (1955), p. 180.

Thus only about one-fourth of the marketed quantity of rice is disposed of by growers themselves either in the village itself or in the assembling markets Village merchants and itinerant merchants together handle about one-third and wholesale merchants about one-fifth of the total marketable surplus of rice

This is, however, only the overall position There are considerable local variations In the Punjab, for instance, as much as 35 per cent of the paddy was estimated to have been brought to the market by growers, while at the other end of the scale only 3 per cent was directly marketed by producers in Travancore Landlords played an important role in the assembling of paddy in Madras, their share being 15 per cent of the local surplus Similarly, village *banias*' share in the assembling of paddy was found to range from 4 per cent in Mysore to 20 per cent in the Punjab[2]

Village Sales

Direct sale by growers in the assembling markets depends on various factors In Jullundur, Ludhiana and Montgomery districts of Punjab where means of communications and transport are well developed and marketable surplus is considerable, about four-fifths of the wheat crop is sold by the grower directly in the assembling markets On the other hand, in Attock district of the same State, which lacks in these facilities, the corresponding proportion was insignificant In Western Uttar Pradesh, about one-third of the local surplus is estimated to be taken to the assembling markets by the growers In the Eastern districts, however, where rice predominates, the proportion is much less owing to small marketable surplus and the lack of transport facilities.[3] More recently, the Rural Credit Survey emphasised the predominance of village sales Nearly 65 per cent of the transactions investigated reached completion in the village itself and the proportion was the same both for large and small cultivators[4]

---

[2] Report on the Marketing of Rice, *Ibid*, pp 174-175

[3] Report on the Marketing of Wheat in India, Government of India (1937), pp 127-128

[4] Report of the Committee of Direction—All-India Rural Credit Survey, Vol II, General Report, Reserve Bank of India (1954), p 101

Malpractices

The predominance of village sales is also due to cultivators' dependence for credit on village moneylenders and widespread malpractices in the assembling markets Although the co-operative credit movement has made good progress in recent years, cultivators are still dependent on private agencies for credit, as shown in the chapter on The Role of Co-operation Absence of adequate and timely co-operative credit compels the cultivators to make forward sales of their crop before harvest Further, a variety of malpractices prevailing in the assembling markets act as a disincentive to cultivators to bring their produce to the market The malpractices take various forms such as (i) manipulation of weights and scales against the seller, (ii) the practice of taking large quantities as samples, (iii) arbitrary deductions under various pretexts, (iv) sales under cover thereby keeping the grower-seller ignorant about price and (v) discriminatory marketing charges The extent of these malpractices varies from market to market and broadly depends on the cunning of the *Arhatiya* and the trader and gullibility of the grower-seller It is not possible to precisely measure the loss sustained by the grower on this account, but its existence is amply demonstrated by various marketing surveys It was observed that in markets where charges were payable in kind, customary deductions were not actually weighed, and cultivators were mulcted of a somewhat larger allowance The *Arhatiya's* commission was also usually higher for the small grower because the village merchants and others whose turnover is larger are usually able to secure favourable terms, often as low as half of the rate charged to cultivators The trade allowance (*Karda*) charged from cultivators is higher than that charged from village merchants Even in well organised markets as Hapur and Ghaziabad, it was observed that the cultivators ordinarily paid as much as twice the charges paid by the village merchants

MARKETING COST

Marketing costs can be broadly defined as the costs incurred in the process of bringing the produce from the farm to the consumer They include not only the margins of various marketing agencies but also other costs such as for transport, taxes, insurance, etc The magnitude of these costs depends on the distance between the producer and the consumer, the extent of processing involved, the degree of middlemen's monopsony in the markets and the time interval between production and consumption Except perhaps the element of monopsony in the purchases by the middlemen all other factors create utilities of place, time and form and costs have to be incurred for creating these utilities Consequently, the producer's share in the consumer's rupee will depend upon the nature and extent of utilities added Thus, whether marketing system is fair to the producer and the consumer cannot be judged merely on the basis of producer's share in the consumer's rupee Each item of marketing costs needs to be looked into.

Since the bulk of the marketable surplus comes to the assembling market for disposal, whether brought by cultivators themselves or by other agencies operating at village level such as itinerant merchants, we may examine the marketing charges for the assembling of produce These may be classified as follows· (i) *Arhat* (commission), (ii) *Dalali* (brokerage), (iii) *Karda* (trade allowance), (iv) *Hamali* (handling charges), (v) *Tulai* (weighing charges), (vi) Charities and (vii) Miscellaneous charges

In some assembling markets there are no brokers in addition to commission agents *Karda* is a deduction in kind payable by the seller in order to compensate the buyer for loss in weight on account of impurities, driage, etc Miscellaneous charges include such items as market fees, fees levied by the commission agents to cover the wages of his apprentices, payment to waterman, sweeper, etc

A noteworthy feature of these market charges is that they differ from market to market and may be payable by the seller in some places and by the buyer in others In the Punjab, for instance, in 18 out of 46 wheat markets studied commission was paid jointly by the seller and the buyer In 12 other markets commission was paid by the seller alone Rates of trade allowance also varied from place to place In the Punjab the rate of *Karda* for wheat varied from ¼ seer per bag at Fazilka to 1¼ seer at Mandi Bahuddin[5]

---

[5] Report on the Marketing of Wheat, *Op cit*, pp 155-157.

Handling charges comprise wages paid to labourers for loading and unloading the cart dressing the produce, cleaning, filling the scale pan and weighing These charges are paid by sellers at some places and buyers at other places Deduction for charitable purposes forms a regular item in the list of customary marketing charges in almost all markets The purposes for which this collection is made are numerous social, educational and religious purposes being the most important Obviously these purposes have no direct bearing on the marketing of produce The worst feature of this charge is that the collections made are not utilised for legitimate objects and a good portion is retained by the persons collecting it

In the distribution stage of marketing, marketing cost includes expenses of transportation, and handling from the point of delivery to the buyer's premises, the cost of containers, twine for sewing, the *Arhatiya's* commission, brokerage, and sundry charges such as fees for correspondence, clearing charges, etc As a general rule, all these charges are paid in cash by the wholesaler or his agent Although there are variations in these charges from market to market, these are not so pronounced as in assembling costs The reason for this is that the contracting parties at this stage of marketing are better equipped and organised than the smaller agencies which so largely participate in the assembling

The magnitude of total marketing cost in respect of wheat is shown in Table II It would be seen that the producer's share in the consumer's price varies from 59 per cent in the case of wheat from Lyallpur to Calcutta to 83 per cent in the case of wheat exported from Hapur to Delhi The main reason for the difference in the proportion of consumer's price received by the producer is the high transport cost involved in carrying wheat from Lyallpur to Calcutta, accounting for 27 per cent of the consumer's price as against only 2 per cent in the case of wheat dispatched from Hapur to Delhi

In the case of paddy also, marketing costs varied from one market to another, as shown in Table III

TABLE II
MARKETING COST OF WHEAT

(As percentage of consumer's price)

Item	Exports from Lyallpur to Calcutta	Exports from Hapur to Delhi	Exports from Sagar to Bombay
Cultivator's price	58 6	83 2	63 1
Assembling charges	1 2	1 0	2 6
Costs incurred by buyers in the assembling markets	4 5	5 3	4 8
Railway freight	27 3	2 1	21 7
Wholesalers' cost at consuming centre	4 1	2 6	3 2
Wholesalers' margin	1 4	1 0	0 8
Retailing cost	2 9	4 8	3 8
Consumer's price	100 0	100 0	100 0

Source Report on the Marketing of Wheat in India, *Op cit*, pp 440-441

Table III is revealing in two respects Marketing charges payable by sellers are higher than those payable by buyers in almost all markets Secondly, variations between different markets in marketing charges payable by sellers are of greater magnitude than in those payable by buyers For instance, marketing charges payable by sellers vary from Rs 1 69 in Bombay markets to Rs 10 50 in markets in Uttar Pradesh, while those payable by buyers vary from Re 0 81 in markets in Hyderabad to only Rs 3 37 in markets in Uttar Pradesh.

So far we have examined marketing charges of two staple food crops We may now examine the marketing charges of tobacco, which is one of the important cash crops Another reason for selecting this crop for study is to show how far marketing system can be exploitative from primary producer's point of view

Marketing charges vary according to the type of tobacco They are the lowest at about Re 1 per candy of 500 lbs in the case of *cheroot* tobacco at Eluru in Andhra Pradesh and highest at Rs 6 24 per candy at Salem in Madras State Marketing charges for chewing tobacco vary between Rs 4 75 per candy at Vedaranyam market in Madras to Rs 28 63 per candy in North Bihar. Marketing charges are very high in the case of

TABLE III

AVERAGE MARKET CHARGES ON PADDY

(In rupees per 100 rupees worth of paddy)

Item	Madras 6 markets	Uttar Pradesh 7 markets	Bihar 9 markets	Madhya Pradesh* 4 markets	Hyderabad 8 markets	Bombay* 1 market
I Payable by seller						
(a) Municipal tolls, etc	—	0 50	—	0 42	0 30	—
(b) Handling charges	1 08	0 22	0 39	0 47	1 19	0 19
(c) *Karda*	—	4 85	0 91	—	0 82	—
(d) Commission	—	—	1 40	1 21	3 41	1 50
(e) Brokerage	0 96	1 55	—	—	—	—
(f) Charities	0 40	0 07	0 09	0 48	0 09	—
(g) Miscellaneous	—	3 31	0 41	—	—	—
Total	2 44	10 50	3 20	2 58	5 81	1 69
II Payable by buyer						
(a) Handling charges	0 60	—	—	—	0 37	—
(b) Commission	0 60	2 34	—	0 33	—	1 50
(c) Brokerage	0 61	0 25	—	—	—	—
(d) Charities	0 60	—	—	—	0 37	—
(e) Miscellaneous	—	—	—	—	—	—
Total	2 42	3 37	—	1 77	0 81	2 29
Grand Total	4 86	13 87	3 20	4 35	6 62	3 98

**For Rice*

Source Report on the Marketing of Rice in India, *Op cit*, p 486 *bidi* tobacco, ranging from Rs 23 per Rs 100 worth of tobacco in Kaira market of Gujarat to Rs 34 in Nipani market of Mysore[6] Further, more than four-fifths of these charges are payable by the grower The high marketing charges of tobacco are mainly due to exorbitant rates of deductions in kind and commission Marketing charges in kind are mainly paid by sellers and these account for nearly half of the total marketing charges

In Nipani (Mysore) and Jaisingpur (Bombay) markets, deductions on account of stalks and tare constitute as much as 14 per cent of the value of produce These deductions are made even though the actual weight of tare may not exceed one per cent and stalks, two to three per cent These two types of deductions are absent in Kaira market but a deplorable system of deductions under the pretext of *Naman,* excess weight and *labh* exists Under cash deductions discount and commission are important items Discount is charged for making a cash payment In actual practice, however, even though payment is delayed by months discount is claimed by the buyers

Against the high level of marketing cost of *bidi* tobacco, marketing charges of cigarette tobacco are much less as shown in Table IV One of the important reasons for the low level of marketing charges in Guntur market is regulation of marketing of tobacco

TABLE IV

MARKETING CHARGES IN GUNTUR MARKET
(ANDHRA PRADESH)

(Per Rs 100 worth of tobacco)

I Payable by seller	Rs
(i) Brokerage/Commission	1 00
(ii) Incidental and handling charges	0 37
Total	1 37
II Payable by buyer	
(i) Market cess	0 75
(ii) Weighment charges	0 19
(iii) Commission	1 00
(iv) Incidental charges	1 00
Total	2 94
Grand Total	4 31

Source Marketing of Tobacco in India, pp 220-221

---

[6] Marketing of Tobacco in India, Directorate of Marketing and Inspection, Ministry of Food and Agriculture, Government of India, Third Edition (1960), pp 63-64

From the foregoing analysis it would be observed that marketing charges show great variations from market to market and are generally higher in the case of cultivator-seller Besides, there prevails a variety of malpractices in different markets resulting in loss to the producer In the absence of combined action on the part of cultivators to protect their interests, it is necessary for the State to intervene Government has devised two types of measures to remove the deficiencies in the marketing system in India *viz*, regulation of markets and co-operative marketing

REGULATED MARKETS

Review of Legislation

Legislation for regulation of markets was initiated in India in the 'thirties following the recommendations of the Royal Commission on Agriculture In that decade the Madras Commercial Crops Markets Act, 1933, the Central Provinces Agricultural Produce Markets Act, 1935 and the similar Acts in Bombay, Mysore and Punjab were enacted Because of the World War II and the later unsettled political conditions, no marketing legislation was enacted during the 'forties As there were many States in which marketing legislation did not exist, the First Five-Year Plan recommended that early steps should be taken in this direction As a result, marketing legislation was enacted in Madhya Bharat. Coorg and Orissa during the First Plan period and in Bihar and Rajasthan during the Second Plan period Thus at present marketing legislation is in force in all the States except West Bengal, Uttar Pradesh and Assam

Salient Features

Marketing legislation generally covers all the agricultural as well as horticultural produce, livestock and livestock products and forest products In Madras and parts of Andhra Pradesh where Madras Commercial Crops Markets Act, 1933 was in force till recently, commodities covered included only cotton, groundnut, gingelli and turmeric In pursuance of the recommendations of the Expert Committee on the review of the above Act, the Madras Agricultural Produce Markets Act was enacted in 1959 and the scope of the Act was broadened

Under the Acts, the State Governments are authorised to establish a market committee for every notified area to enforce provisions of the Acts The market committee is constituted of representatives of agriculturists, traders, local bodies, co-operative marketing societies and Government

The principal aim of marketing legislation is to ensure the fair trade practices by eliminating malpractices and unauthorised deductions Since a number of malpractices are associated with the methods of sale of produce, the legislation generally prescribes the open auction method of sale At the time of auction, a representative of the market committee is present noting down the name of the buyer, the quantity and price of the transaction Thus the producer is assured of the price at which his produce is sold Legislation in different States also provides for licensing of market functionaries such as commission agents, wholesale buyers, weighmen, labourers, etc The licence granted to these agencies stipulates that they would follow fair practices

As the marketing charges often tend to be exorbitant as discussed above, the legislation in all the States provides that no allowance other than the allowance prescribed under the Acts shall be made or received in a regulated market Since a good number of disputes arise in the market in respect of different transactions, the Acts provide for settlement of the disputes Under these provisions, all disputes between buyer and seller regarding the quality or weight of agricultural produce, the price or rate to be paid, allowances or deductions to be made, etc, should be referred to the market committee or arbitrator appointed by it The decision given by the committee or the arbitrator is treated as final In some States such as Gujarat and Maharashtra there is provision for appointing a sub-committee to which all disputes are referred

Apart from the provisions discussed above, various Acts contain other provisions such as those relating to an agreement between a buyer and a seller, books and accounts to be kept by traders, commission agents, etc, use of correct weights and measures, fees to be levied by the market committee, etc Penalties also have been laid down for the violation of these rules

Progress

Of about 2,000 and odd markets in the country, only 286 markets were regulated up to the beginning of the First Five-Year Plan (Table V) During the First Plan period, 184 markets were regulated, bringing the total number of regulated markets to 470.

TABLE V

REGULATED MARKETS IN INDIA

	Number of Markets Regulated				
	Before the commencement of the First Five-Year Plan	During the First Five-Year Plan (1951-52 to 1955-56)	During the Second Five-Year Plan (1956-57 to 1960-61)	As on March 31	
				1963	1964
Andhra Pradesh	35	27	24	104	94
Bihar	—	—	—	10	10
Gujarat	121	47	127	163	169
Maharashtra				281	311
Kerala	1	—	3	4	4
Madhya Pradesh	3	56	27	105	111
Madras	11	8	18	35	66
Mysore	23	24	25	143	150
Orissa	—	—	15	26	26
Punjab	92	22	18	137	137
Rajasthan	—	—	—	—	8
Delhi	—	—	3	3	3
Tripura	—	—	—	—	1
Total	286	184	260	1,011	1,090

Source Office of the Agricultural Marketing Adviser to the Government of India, Nagpur

As the progress was still far from satisfactory, the Second Five-Year Plan reiterated the importance of speedy implementation of regulation of markets Similarly, the Conference on Co-operation and Marketing held at Hyderabad and Jaipur in 1955 and 1956, respectively, and the All-India Seminar on Co-operative Marketing of Agricultural Produce held in Lucknow in 1958 recommended enactment of marketing legislation in all the States. During the Second Plan period, additional 260 markets were regulated The first two years of the Third Plan gave further impetus to the regulation of markets and by March 1964, 1,090 markets were regulated Thus, substantial progress was recorded in the regulation of markets since the beginning of the Second Plan period. However, the magnitude of task ahead is still large as about one-half of the markets are still outside the orbit of market legislation

Progress in regard to regulation of markets has been very uneven as between different States While there is a marked progress in Gujarat, Maharashtra, Punjab and Hyderabad area of Andhra Pradesh and to some extent in Madhya Pradesh, Mysore and Madras, legislation is yet to be introduced in Assam, Kerala, Uttar Pradesh and West Bengal In Orissa 26 markets have been regulated and in Malabar area of Kerala only 4 markets were regulated under the Madras Act

Working

Information on the working of the regulated markets is scanty Assessment of regulated markets has been made by Expert Committees in erstwhile Bombay, Mysore and Madras States The reports of these committees indicated that the regulation of markets has conferred a distinct benefit on the cultivators Although it is not possible to measure precisely the magnitude of benefits received by producers, it was observed that marketing charges were substantially lower after the regulation Indirect benefit was derived by cultivators in the form of fair trade practices The reports also brought out the fact that in a good number of markets regulation was not effective Although open auction method of sale was one of the important aims of regulation, it was not enforced in some markets As observed in one Report "the *hatha* system in one form or another is still prevalent in a few markets Even in those markets where the open auctions or open agreement systems have been adopted, there are several compromises with the essentials of the system "[7] Besides, village sales predominated in the area of most of the regulated markets The Rural Credit Follow-Up Surveys conducted by the

---

[7] Report of the Enquiry into Regulated Markets in Bombay State (M L. Dantwala Committee), Government of Bombay (1951)

Reserve Bank of India showed that in most of the district
veyed, barring a few, a substantial proportion of produce
sold in the village itself These facts underline the importa
of effective regulation of markets

CO-OPERATIVE MARKETING

As in credit, in marketing also the co-operative movement has three-tier structure with primary marketing societies at the base, central marketing societies at the district level and the State marketing society as an apex institution The three-tier system is not found in States like Bihar, Madhya Pradesh, Orissa and West Bengal and in all the Union Territories except Himachal Pradesh. In these States and Territories marketing societies follow a two-tier system with apex and primary societies only. The set-up of sugarcane supply societies, which, as indicated earlier form a large majority of marketing societies, is different from other marketing societies Separate societies at apex level and at central level are found only in Uttar Pradesh and Bihar respectively, and in all other States sugarcane societies are organised only at the primary level. The Conference on Marketing and Co-operatives held at Jaipur in 1956 recommended a two-tier structure of co-operative marketing organisation as the normal pattern and federations at district level were recommended to be organised in any particular region if considered necessary by the State Government[8]

The apex societies cover the entire area of the respective States, while the central societies cover either a revenue district as in the case of Southern States or a region as in Gujarat Primary marketing societies are organised generally with jurisdiction co-terminus with administrative division like taluk, tehsil or block In certain areas they are organised on the basis of *mandis* or markets The Rural Credit Survey Report recommended that the basis of organisation of marketing societies should be either the important *mandis* (wholesale markets) or the taluka centres.[9]

[8] Recommendations of the Conference on Marketing and Co-operatives held at Jaipur from 3rd to 5th December, 1956

[9] Report of the Committee of Direction, All-India Rural Credit Survey Vol II—The General Report, *Op cit*, p 455

Although co-operative marketing societies are working for a number of years in the country, their position was till recently none-too-happy The All-India Rural Credit Survey Report observed A few — very few — fairly successful co-operative marketing societies do exist in India Some of them may be significant pointers to the lines on which future progress is possible, but as a present contribution towards bringing about a system in which marketing is by the cultivator and for the cultivator, the part which they occupy in the total picture is wholly insignificant All the co-operative marketing societies of India put together still fail to catch one's attention as anything important "[10] The Survey data showed that sales to co-operatives were reported in only 12 out of the 75 selected districts In only four districts the value of produce sold through co-operatives exceeded 10 per cent of the total sales of the farmers

Table VI indicates the particulars regarding working of marketing societies as at the end of 1957-58 and 1962-63 As on 30th June 1963, there were 22 State marketing societies and 221 central marketing societies As a result of the programme of development envisaged under the Second Plan, there was a significant improvement in the number of primary marketing societies as well as in their financial position The number of primary marketing societies increased from 9,368 in 1957-58 to 12,062 in 1962-63, with a membership of 41 04 lakh individuals and 104 thousand societies The number of individual members brought under the fold of all the co-operative marketing societies had steadily moved up from 32 05 lakhs in 1957-58 to 41 74 lakhs in 1962-63 In terms of markets, the primary societies covered as many as 95 per cent of the regulated markets and 69 per cent of other markets during 1960-61.

Financial Resources

The total working capital of apex, central and primary societies amounted to Rs 14 73 crores, Rs 16 55 crores and Rs 46 73 crores, respectively at the end of June, 1963. The apex societies in Uttar Pradesh, Bihar, Gujarat and Orissa stand

---

[10] All-India Rural Credit Survey, Vol II — The General Report, *Op. cit*, p 106

TABLE VI

WORKING OF MARKETING CO-OPERATIVES (INCLUDING SUGARCANE SOCIETIES) 1957-58 AND 1962-63

(Amount in thousands of rupees)

Selected items	1957-58				1962-63			
	National	Apex (State)	Central societies	Primaries	National	State	Central societies	Primaries
1 No of societies	—	16	2,871	9,368	1	22	221	12,062
2 Membership								
Individuals and others	—	268	23,05,403	8,99,686	—	925	68,684	41,04,310
Societies	—	1 841	58,920	19,478	37	4,859	34,653	1,04,074
3 Paid-up share capital	—	60,55	3,67,82	2,39,57	37	1,49,63	1,82,38	11,98,74
4 Working capital	—	4,42,22	21,21,37	10,07,67	15,53	14,72,80	16,55,09	46,73,03
5 Loans advanced during the year	—	5,22	11,80,09	9,83,92	—	2,11,15	4,11,27	31,74,93
6 Value of sales								
(i) Agricultural produce								
As owners	—	1,07,15	16,66,82	6,26,12	35,76	7,67,88	3,89,12	11,93,32
As agents	—	3,77,90	48,89,00	17,82,76	—	1,70,02	5,60,33	96,96,66
(ii) Agricultural requisites	—	2,46,80	12,30,49	5,63,68	—	21,24,82	21,61,94	31,56,50
(iii) Consumers goods								
As owners	—	—	—	—	—	6,44,64	3,99,52	10 76,73
As agents	—	—	—	—	—	6,82,63	70,22	3,55,62
7 No of godowns								
Owned No	—	11	765	462	—	44	163 @	2,567
Rented No	—	9	884	1,184	—	1,014	1,541 @	4,567
8 Government contribution								
(i) Share capital	—	39,90	33,00	64,76	—	91,47	53,37	4,95,48
(ii) Loans for general purposes	—	2,62,48	1,18,23	73,22	—	8,64,32	2,28,96	6,84,22
(iii) Loans and subsidies for construction of godowns, cost of management and other purposes	—	15,62	85,08	63,13	—	3,62,26	13,83	3,56,31

Source Statistical Statements relating to the Co-operative Movement in India, 1957-58 and 1962-63

— Denotes not available

@ Excludes number of godowns owned or rented by the sugar co-operatives as the data are not available

Note A decline in the number of central marketing societies is mainly due to reclassification in 1958-59 of a large number of block development unions in Uttar Pradesh and in 1960-61 of taluka purchase and sale unions in Maharashtra and Gujarat out separately with working capital exceeding Rs. 1 crore per society, while in the rest of the States and Union Territories the quantum of working funds varied from a minimum of Rs. 3 lakhs in Tripura to a maximum of Rs 78 lakhs in Madhya Pradesh. The average working capital per central society (excluding the central sugarcane societies in Bihar) exceeded Rs 16 lakhs in Madras, Jammu & Kashmir and Andhra Pradesh, while in Kerala, Maharashtra, Gujarat and Uttar Pradesh, the average varied between more than Rs 5 lakhs to less than Rs. 15 lakhs per society In the rest of the States, except Assam, the quantum of working capital was Rs 2-3 lakhs per society The working funds available with the central societies in Assam, on an average, worked out to only Rs 42,000 The disparity in respect of resources among the primary societies (excluding sugarcane societies) is more marked as between various States The primary societies in Madras top the list with an average of about Rs 3 lakhs working capital per society In Andhra Pradesh, Gujarat, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Mysore, Orissa and Uttar Pradesh and the Union Territories of Delhi and Pondicherry the State average is higher than the national average of Rs 1 lakh per society

An analysis of the composition of working capital would reveal that the societies, by and large, depend on borrowed funds for raising adequate finance Consequent on the recommendation of the Rural Credit Survey Report, the State Governments contribute to the share capital of societies and also provide long-term loans for construction of godowns, installation of processing units, etc

The State contribution to the share capital of all the marketing societies amounted to more than Rs 6 crores at the end of June, 1963 At the apex level, the State has so far participated in the share capital of 18 out of 22 societies. Forty per cent of central societies and 63 per cent of primary societies (excluding sugarcane societies) had also been provided with share capital contributions by the State Governments Further, they provided long-term funds to marketing societies for construction of godowns, installation of processing units, etc Such borrowings from Governments are sizable at the apex level where more than 59 per cent of the working capital is composed of Government borrowings The amount borrowed from Government accounted for about 10 per cent of total working capital of primary societies in 1962-63

The marketing societies need short term credit to finance their marketing and distribution activities Such short term credit is obtained largely from the central co-operative banks. Borrowings from central co-operative banks accounted for 12 per cent, 28 per cent and 26 per cent of the working capital of apex, central and primary societies, respectively, at the end of 1962-63 The central co-operative banks provide funds for issuing pledge advances, for marketing operations and for distribution activities These banks in turn get the funds from the State co-operative bank and from the Reserve Bank of India Recently, the State Bank of India had initiated a scheme for providing working fund to marketing societies to which a reference has been already made in Chapter XIII At the end of 1963, borrowings from State Bank of India accounted only for 0 03 per cent and 0 8 per cent of working capital of central and primary societies,[11] respectively Only central societies of Andhra Pradesh had borrowed from the State Bank of India while primary societies of as many as 8 States, namely, Andhra Pradesh, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh and West Bengal borrowed funds from the State Bank of India

Working of Societies

The main activities undertaken by marketing societies are (a) sale and purchase of agricultural commodities both as agents and owners, (b) undertaking processing activities, (c) providing pledge or hypothecation credit and (d) distribution of production requisites and consumer goods. The primary marketing societies undertake the marketing of members' produce The central societies co-ordinate the activities of the primary marketing societies and also undertake distribution activities. The State marketing societies assist in the marketing of crops, distribution of production requisites and certain essential consumer goods and also help in governmental activities

The magnitude of purchase and sale effected by societies show substantial improvement in 1962-63 over 1957-58 Of the total value of sales of agricultural produce, more than 30 per cent is accounted for by the sales effected by sugarcane supply societies. The progress of marketing transactions gives a widely differing picture as between different States Seven States, *viz*, Maharashtra, Gujarat, Mysore, Uttar Pradesh, Madras, Assam and Punjab accounted for over 85 per cent of sales undertaken by marketing societies, Uttar Pradesh leading the list with nearly 36 per cent of total all-India sale. Foodgrains covering paddy, wheat and other foodgrains account for more than 40 per cent of sales of primary societies The main commercial crops, other than sugarcane, marketed are cotton and oilseeds Cotton marketing societies in Gujarat, Maharashtra, Madhya Pradesh, Punjab and Mysore, arecanut societies in Mysore and Kerala, tobacco societies in Andhra Pradesh, coconut societies in Kerala and Andaman and Nicobar Islands are the chief specialised societies accounting for a major part of sales of these commercial crops At the apex level the societies in Andhra Pradesh, Madras, Pondicherry and Delhi had not undertaken any marketing business at all during 1962-63, while at the intermediate level 23 out of 151 central societies reported no transactions More than 31 per cent of primary societies did not undertake marketing business during 1962-63

---

[11] Excluding sugarcane supply societies

The two main trading practices followed in marketing operations are transactions under outright purchase system and under agency system Under the former the societies make outright purchase and sell either in the same form or after processing at a price generally higher than the purchase price, the risk of fluctuating prices being borne by the societies themselves The latter system entails transactions on an agency basis, the societies acting as a commission agent between the sellers and buyers Sales under agency system account for a major part of total sales in both central and primary societies

The merits and demerits of both the systems had been debated In view of the possibility of loss arising in the event of fall in prices a limit up to which outright purchases could be undertaken is usually fixed in the by-laws of societies Such limits are related to the owned funds of societies Fixing up this limit curtails to a very large extent the scope of the societies to augment marketing operations The apprehension on the part of societies regarding fall in prices and incurring of losses further inhibit the societies to undertake larger purchases under this system The Conferences of State Ministers for Co-operation held in 1961 and in 1963 considered the question of augmenting the scale of operation under outright purchase system The main recommendation of the Conference (1963) was the creation of a special fund in each State for meeting losses arising out of outright purchase system A detailed scheme about the mechanics of the Price Fluctuation Fund had been chalked out, and it is expected to be introduced in 200 selected societies in 1964-65 and in 300 societies in 1965-66 Under the scheme, each selected society will create a price fluctuation fund and contribute to this fund at the rate of 10 per cent of their net profit every year Government's contribution to this fund in a year is fixed at 20 per cent of the value of outright purchases of agricultural produce made by these societies in the preceding year, subject to a total limit of Rs 20,000 for each selected primary society, Rs 1 lakh for regional or apex society and Rs 2 5 lakhs for the National Federation The Government's contribution will be shared by the Centre and State Governments on 50 50 basis

The quantum of marketing transactions depend, among other things, also on the capacity of the societies to arrange for sale at competitive prices. In this respect the societies at central and State level have a dominant role to play but in actual operation these societies do not undertake the operations in a co-ordinated manner Most of these societies function in isolation and the co-ordination is generally confined to the distribution of fertilizers only

The marketing societies also undertake credit operations which are chiefly confined to supply of short term accommodation against the security of produce to producer-members to enable them to hold back the produce with a view to selling it at a favourable price later in the season In addition, societies also provide loans for current agricultural purposes and processing activities The total quantum of advance issued by primary marketing societies to individuals was of the order of Rs 23 crores during 1962-63 About 70 per cent of loans issued to individuals are against pledge of produce At the all-India level 42 per cent of primary societies undertook credit operation This proportion is highest in Madras with 95 per cent of societies granting advances and also in Uttar Pradesh where the proportion is 83 per cent Pledge advances which are one of the major activities of the societies are given up to 75 per cent of the market value of produce for a period of 6 to 9 months. The limit up to which individuals could borrow pledge loans is fixed generally at an amount varying from Rs. 2,000 to Rs 5,000 Apart from pledge loans the societies also provide short term production credit which both in its nature and operation varies from State to State

Although undertaking of processing activities is one of the main functions of marketing societies the progress made in this respect by them is not very satisfactory Over the period 1959-60 to 1962-63 the number of societies undertaking processing had gone up from 65 to 154, of which 141 were primary societies These societies undertook processing of cotton, oilseeds, paddy, etc They are spread out in all the States except Jammu & Kashmir and the Union Territories At the central level, 12 societies that undertook processing of fruits and vegetables, coconuts, oilseeds and paddy are in Maharashtra, Kerala, Gujarat, Andhra Pradesh and Madras The specialised cotton marketing societies in Gujarat and Maharashtra had successfully linked up the processing activities like ginning and processing with general marketing function Considerable assistance by way of share capital contribution and long-term loans provided by State Governments to marketing co-operatives had enabled them to install processing units However, such assistance does not cover the entire cost of installing a unit

Creation of adequate storage capacity is one of the important developments in the field of co-operative marketing. The available data indicate steady increase in number of both owned and hired godowns at apex, central and primary level The proportion of societies having owned godowns works out to 43 per cent at the apex level, 58 per cent at central and 44 per cent at the primary level. The sugarcane societies, however, have not acquired godown facilities, as less than one per cent of primary societies only reported having owned godowns. The growth in the construction of godowns is largely due to the increased financial assistance provided by the Government under the plan schemes. Loans extending for a period of 15 years and subsidies are provided by the Government

One of the important functions of the societies is distribution of production requisites like fertilizers, manures and agricultural implements and consumer goods like sugar, rice, kerosene, etc The value of agricultural requisites distributed by the primary societies increased from Rs. 5 7 crores in 1957-58 to Rs. 31 6 crores in 1962-63 The value of fertilizers distributed by them at Rs 17.4 crores in 1962-63 accounted for nearly 65 per cent of the total agricultural requisites sold The sugarcane supply societies also undertook distribution of fertilizers to the value of Rs 2 05 crores in 1962-63. The distribution of chemical fertilizers entrusted either on monopoly basis or on a preferential basis with co-operative organisations is the main contributory factor for the growing volume of distribution operation Complete monopoly of distribution of chemical fertilizers is entrusted with co-operative marketing societies in the States of Andhra Pradesh, Bihar, Gujarat, Jammu & Kashmir, Maharashtra, Madhya Pradesh, Madras, Mysore, Orissa and Punjab In the sphere of distribution, greater degree of operational inter-relationship is discernible between primaries, central and apex societies resulting from routing the supplies either through the apex societies as in Gujarat and Punjab or through district societies as in Maharashtra and Andhra Pradesh The system of distribution being controlled at various levels the co-operative marketing societies are ensured of a fair level of margin The central co-operative banks provide necessary accommodation to finance the distribution work Apart from controlled fertilizers, the societies also undertook purchase and sale, mostly under outright purchase system, of other fertilizers and manure mixtures. Under consumer goods, the most important items sold are sugar and rice.

Interlinking of Credit and Marketing

Linking of credit operation of the co-operative credit societies with marketing transactions of the marketing societies is the basic policy intended to develop the working of marketing societies Affiliation of credit societies with marketing societies and arranging for the sale of member's produce and recovering the dues are the basic features of interlinking arrangement. During the period 1959-60 to 1962-63 for which detailed breakdown figures are available, the number of marketing societies which recovered loans of credit societies by marketing of produce increased from 213 to 465. The quantum of loans recovered by the societies on behalf of credit societies is, however, not significant Out of about Rs 254 crores outstanding to primary agricultural credit societies during 1962-63, only Rs 5 6 crores were recovered by the marketing societies through sale proceeds of members Further, the progress is unevenly spread out in different States There are three States, *viz*, Bihar, Orissa and Punjab and all the Union Territories which had not made any progress at all in implementing the interlinking arrangement, while the States like Uttar Pradesh, Madras, Madhya Pradesh, Maharashtra, Mysore and certain areas of Gujarat have made comparatively better progress. The low level of marketing transactions, inadequate financial resources and absence of proper inducements are some of the factors that retard the progress of interlinking arrangement

Successful functioning of marketing societies depends as much on efficient management as on other contributory factors like financial adequacy, etc. In fact, managerial efficiency holds the key to better performance. With a view to providing adequate trained staff to manage the societies, State Governments under the plan schemes provide financial assistance by way of managerial subsidy to the societies Although such subsidies account for a very small proportion of cost of management of societies, they provided some inducements for the societies to have trained managers. The managing committees which control and guide the functioning of societies are, in some cases, dominated either by trader elements or urban-oriented interests. Indiscriminate granting of pledge loans, organising traders' ring within the societies, misuse of office, indulging in malpractices and embezzlement and unresponsiveness to departmental guidance are some of the inhibiting factors observed in the management of societies. Strict supervision and adequate guidance by the department would go a long way to improve the efficiency of management.

CO-OPERATIVE PROCESSING

Processing is an integral part of marketing The programmes of development under the Second Five-Year Plan placed great emphasis on co-operative processing During the Second Plan period good progress was recorded in setting up co-operative processing units The number of co-operative cotton ginning and pressing units and other processing units increased from 76 and 554 in 1957-58 to 134 and 8,442 respectively in 1962 63

The Plan period also witnessed an increase in the number of co-operative sugar factories. As against 3 co-operative sugar factories in 1955-56, there were as many as 41 in 1962-63 which had commenced production and additional 16 units licensed were under construction. The present policy of the Government in the expansion of sugar production is to encourage the establishment of sugar mills on co-operative basis by giving them preference in granting licences. As at the end of March 1963, about one-fourth of the total licensed capacity for sugar production was with the co-operative sector and the co-operative sugar mills accounted for 22 per cent of the production in the country in 1962-63 as against only 8 per cent in 1957-58

A large number of the sugar co-operatives is concentrated in Maharashtra. This State also accounts for more than half of the total production of sugar by co-operatives in the country.

The initial cost of establishing a factory is partly met by share capital contributed by the members who are mostly cane producers, and other co-operative institutions, and the State Government. By the end of June 1962, the sugar co-operatives together had built up a share capital base of Rs. 19.47 crores of which 40 per cent was contributed by the State/Central Governments. A major part of the capital cost is financed by the Industrial Finance Corporation through long-term loans up to 65 per cent of the cost, subject to a maximum of Rs. 90 lakhs per factory. Valuable assistance is rendered by the State Bank of India also by way of short term interim advances, letters of credit for import of machinery, etc. Working capital requirements of sugar co-operatives are met through loans from the central financing agencies.

WAREHOUSING AND STORAGE

Adequate storage facilities is one of the pre-conditions of orderly marketing system. Till recently storage arrangements in the country were both inadequate and unscientific. Realising this situation, the All-India Rural Credit Survey Committee made detailed recommendations in 1954 incorporating even proposals for an organisational framework for initiating a country-wide programme of warehousing development. With a view to promoting a programme of activity in these directions, the Agricultural Produce (Development and Warehousing) Corporations Act was passed in June, 1956 providing for the establishment of a National Co-operative Development and Warehousing Board, the Central Warehousing Corporation and the State Warehousing Corporation in all the States. Accordingly, the Board was set up on September 1, 1956 and the Central Warehousing Corporation on March 2, 1957 In regard to State Warehousing Corporations, a beginning was made in 1956-57 in Bihar and by 1959-60 all the States had set up their warehousing corporations

The main function of the National Co-operative Development and Warehousing Board was to promote the planned development of the co-operative processing and marketing of agricultural commodities and facilities for the storage and warehousing of such commodities As the primary responsibility for developing co-operatives rests with the State Governments, the Board did not deal directly with co-operatives but provided assistance to State Governments which in turn supported the co-operatives For this purpose, the Board had set up (a) the National Co-operative Development Fund and (b) the National Warehousing Development Fund The National Co-operative Development Fund was utilised for advancing loans and granting subsidies to State Governments to enable them to subscribe to the share capital of co-operative societies or for otherwise financing co-operative societies. The National Warehousing Development

Fund was applied for (i) subscribing to the share capital of the Central Warehousing Corporation, (ii) advancing loans to State Governments for enabling them to subscribe to the share capital of State Warehousing Corporations and (iii) advancing loans and granting subsidies to a Warehousing Corporation or to State Governments for promoting the warehousing and storage of agricultural produce.

The National Co-operative Development Corporation was established in March, 1963 in place of the National Co-operative Development and Warehousing Board, mainly for administrative convenience The new Corporation will continue to perform more or less the same functions as the erstwhile Board except that it will cease to be a shareholder in the Central Warehousing Corporation All the shares held by the former Board in the Central Warehousing Corporation and all liabilities as to the payment of unpaid calls on such shares stand transferred to the Central Government The Warehousing Fund which was administered by the Board has been transferred to and will be maintained by the Central Warehousing Corporation.

Since its inception in March, 1963, the National Co-operative Development Corporation is playing an important role in planning, promoting and assisting programmes for production, processing, marketing, storage, export and import of agricultural produce and notified commodities through co-operative societies. It has appointed Functional Committees on co-operative agricultural credit marketing, supplies and storage, co-operative agricultural processing and co-operative consumers' stores During 1963-64, the Corporation advanced loans amounting to Rs. 7.39 crores, the details of which are given in Table VII.

One of the main functions of the Central Warehousing Corporation is to acquire and build godowns and warehouses at suitable places of all-India importance and to run warehouses for the storage of agricultural produce. The functions of the State Warehousing Corporation are intended to be complementary to those

TABLE VII

LOAN ASSISTANCE PROVIDED BY THE NATIONAL CO-OPERATIVE DEVELOPMENT CORPORATION 1963-64

(Rupees in lakhs)

	Purpose	Amount advanced during the year April, 1963 to March, 1964	Amount outstanding at the end of March, 1964
I	Share capital contribution to co-operatives	2,90	16,74
II	Loans to Central Warehousing Corporation	—	
III	Loans for share capital contribution to State Warehousing Corporation	—	
IV	Loans for other purposes including construction of godowns and establishment of cold storages	1,46	
V	Loans for cash credit and purchase of trucks by wholesale consumers co-operatives	3,03	3,84
VI	Investment in debentures of central land mortgage banks	44	44

Source Report on Currency and Finance, 1963-64

of the Central Warehousing Corporation The progress made by the Central and State Warehousing Corporations in developing warehousing in the country is given in Table VIII.

The 78 warehouses set up by the Central Warehousing Corporation by the end of March 1963 had a storage capacity of 18 02 lakh metric tons, 69 per cent of which was actually utilised The State Corporations together had set up 502 warehouses by the end of March 1963 with a storage capacity of 4.32 lakh tons. Of the 2 87 lakh tons of commodities which were stored in these warehouses, 3 per cent belonged to co-operatives, 15 per cent to

TABLE VIII

NUMBER AND CAPACITY OF CENTRAL AND STATE WAREHOUSES

Year	Central Warehouses				State Warehouses						
	No of warehouses		Storage capacity (lakh metric tons)		No of warehouses set up	Storage capacity (lakh tons)		Percentage of utilisation of capacity by			
	Target	Achievement	Total	Utilised [a]		Total	Utilised [a]	Co-operatives	Producers	Traders	Government
(As on March 31)											
1957-58 1958-59	9	10	N A	N A	42	0 16	N A	N A	N A	N A	N A
1959-60	19	27	4 80	2 01	147	1 39	N A	N A	N A	N A	N A
1960-61	40	40	7 90	5 05	266	2 78	1 77	N A	N A	N A	N A
1961-62	60	60	12 35	8 64	373[b]	3 96	2 61	2 6	10 4	82 1	4 9
1962-63	77	78	18 02	12 45	503[c]	4 32	2 87	3 0	14 7	75 2	7 1
1963-64		85	25 70								

[a] That is, stocks held on March 31

[b] Including 37 sub-warehouses and one cold storage

[c] Including 80 sub-warehouses and one cold storage

N.A =Not available.

Source. Annual Reports of the Central Warehousing Corporation, Government of India.

producers and as much as 75 per cent to traders Thus the share of producers and co-operatives in the utilisation of warehousing is very small compared to that of traders, although of late, the former had shown an increase over 1960-61 when it was only 13 per cent.

With the widespread network of warehouses, it has now become possible to provide warehousing facilities for large scale storage of as many as 85 commodities Besides, the Central warehouses handle large stock of fertilizers on behalf of the Government so as to facilitate easy distribution Further, it has now become possible for the cultivators to deposit their produce in the warehouse and raise finance on the security of warehouse receipt Although the warehouse receipt is not as yet a fully negotiable instrument, its popularity as an instrument of credit is steadily gaining ground

Outstanding advances against the receipts of the Central and State Warehousing Corporations amounted to a little over Rs 9 crores at the end of March 1962 and also 1963 as against only Rs 2 crores at the end of March 1960 As the number of warehouses and stocks held are progressively increasing, the advances in 1963 would also have kept pace but for the curbs imposed by the Reserve Bank of India on advances against warehouse receipt covering certain foodgrains With the necessary amendments in the Indian Contract Act as recommended by the Law Commission, the warehouse receipt would be an effective instrument for raising credit in the near future.

CONCLUSION

Thus, the developments in the preceding decade considerably improved the conditions in agricultural markets in India Already half the number of important markets have been regulated. Regulation of markets has conferred considerable benefit on the cultivators Simultaneously, a programme of development of co-operative marketing also proceeded apace Almost all important agricultural markets have been covered by the marketing co-operatives Processing and storage facilities also received due attention. A number of co-operative processing units have come up Warehouses have also been constructed in important marketing centres. This all-round development in respect of regulation of markets, co-operative marketing and processing and warehousing facilities, during the last one decade, created favourable conditions for the producer to dispose of his crop without much exploitation.

Notwithstanding these achievements it cannot be gainsaid that much leeway is yet to be made. Not in all cases is the regulation of markets as effective as is necessary to protect the interests of the producer Further, regulation of markets is still undeveloped in some States such as West Bengal, Uttar Pradesh and Bihar The inadequate pace of development is rather conspicuous in co-operative marketing Despite their impressive numerical performance, the marketing co-operatives handle at present less than five per cent of the value of marketed surplus of agricultural produce In co-operative processing also development has been lop-sided, significant achievements being noticed mainly in cotton and sugarcane These shortcomings in the existing situation are noted not to detract from the importance of achievements already made but rather to emphasise the magnitude of task ahead

PART IV

CHAPTER XV

AGRICULTURAL TAXATION

LAND REVENUE

Ancient and Mediaeval Systems

Only a brief mention may be made here of the pre-British land revenue system[1] It is well known that under the ancient Hindu kings, Government demand by way of land revenue was usually one-sixth of the produce, paid usually in kind but in some cases in cash The early Muslim rulers did not introduce any change in the system and the old "village communities" continued to function through the ages right upto the advent of the British Ala-ud-din Khilji raised the Government's share to half the gross produce The Tughluqs again reduced it to one-tenth or one-eleventh of the gross produce, and injunctions were issued to Revenue Officers that they should look more to the extension of cultivation than to the enhancement of the rate for increase in revenue To Sher Shah belongs the credit of having introduced the system of measurement as the basis of assessment in place of the old system of sharing the crop Lands were classified, standard yields assessed and the revenue demand fixed at one-third of the average on all classes of land Sher Shah's reforms became the basis of Akbar's land revenue policy and administration, with the difference that Akbar proceeded to convert the grain rates assessed by Sher Shah into cash rates based on the average prices prevailing in different places In the later days of the Moghul Empire, the State's claim was increased to one-half of the gross produce The Peshwas accepted the basis of this old assessment. but with the weakening of the central power and the political unsettlement of the period, there developed in different parts of India a system of revenue farming which ensured to the rulers a steady income without the bother of assessment, collection and administration At first, these revenue farmers were not hereditary, they were just public officials, but the centrifugal tendencies of the time greatly strengthened their position and weakened correspondingly the position of the agriculturists In course of time, there developed a complexity of tenures and revenue systems which made the task of the early British officials very difficult

---

[1] This section is based on Dr Radhakumud Mukerjee's "Note on the Indian Land System" in the Report of the Land Revenue Commission, Bengal, Vol II (1940)

The different systems of settlements that have evolved in India can be broadly classified into (i) permanent or those in which assessment was fixed in perpetuity, (ii) temporary or those in which assessment was fixed for a definite period They can also be classified on the basis of tenures as (i) Zamindari in which assessment was fixed on an estate held only by a landlord, (ii) Mahalwari in which assessment was fixed on a village or mahal jointly or severally, and (iii) Ryotwari in which assessment was fixed on the holding of a ryot

Assessment under Permanent Settlement

The principle underlying the assessment in Bengal, Bihar and Orissa was obviously that the State was entitled to the entire rental, except the expenses which would have to be incurred by the zamindars and a small margin as his profit It was on this understanding that the State claimed nine-tenths or ten-elevenths of the rental, leaving the remainder to be taken by the zamindar as a surplus for himself The revenue demand for Bengal, Bihar and Orissa was fixed at Rs 268 lakhs in 1765.

The amount of land revenue thus fixed with reference primarily to the needs of the East India Company was also determined so as "to include in advance the cash value of future agricultural developments of the country and to take credit in the present for the unearned increments of the future"[2] For several years after the settlement, there was widespread default in payment, and many landlords were compelled to sell their estates In course of time, however, as uncultivated lands were brought under the plough and the value of land increased, the assessment became relatively lighter At the same time, it also became more unequal "The increment in the value in an estate which was largely undeveloped at the time of the settlement may be many times that which accrued in one which was fully developed when the settlement was made"[3]

---

[2] Dr Radhakumud Mukerjee, "Note on the Indian Land System" in the Report of the Land Revenue Commission, Bengal, Vol II, pp 219-221

Assessment under Temporary Settlement

The method of assessment under the periodical settlement system is almost uniform An area for which a settlement is undertaken is cadastrally surveyed and classified according to the fertility of soil The rate of revenue is then worked out by calculating the yield of the principal crops, by noting the price of the agricultural produce, the rental and sale value of the land and the ordinary expenses of cultivation Other factors such as physical configuration, climate and rainfall, proximity to markets. means of communications and standard of husbandry are also taken into consideration in the determination of the assessment at the time of the settlement The assessment so determined is fixed for a term of years varying from 15 to 40 years The usual period is 30 years When a revision of the settlements becomes due, the various changes that have occurred since the last settlement in (i) the area of the land and holdings and (ii) the price and yields of agricultural produce, are taken into consideration.

Assessment under Ryotwari

The ryotwari system of assessment can be illustrated by the position in Madras which as modified, continued up to the period of recent reform There are two principles that govern the processes of settlement in Madras[4] The first is that assessment is on the land and does not depend on the kind of crops grown, except in the case of "wet" land, where it includes a charge for irrigation. The soil is first classified according to productive capacity, the normal yield is calculated on each class of soil after a series of experiments, and this is then converted into money value, not at the current rates which may be abnormal, but at the average of prices prevailing during the preceding 20 years, excluding famine years. The second principle relates to the estimation of the net profit of each cultivator To obtain this, various deductions are made from the gross produce, so as to allow for seasonal variations, unproductive areas, cost of cultivation, etc Of the net profit thus arrived at, 50 per cent is claimed as the maximum Government share In practice, the revenue demand is often less, the 50 per cent rule applying only to land enjoying the greatest natural advantages At the time of resettlement after 30 years, no change in basic principles is made An enhancement in Government demand is made if there has been a rise in prices during the interval Government claims no share of the increase in profits due to the improvements made by the cultivator himself, but it does claim a share in the profits due to some general improvement due, for example, to the introduction of a railway

---

[3] Report of the Indian Taxation Enquiry Committee 1924-25, Vol I (1926), pp 42-43

[4] Report of the Land Revenue Commission, Bengal, Vol I, p 124, *ff*.

In Bombay, in the early stages of British rule, temporary settlements were first tried Regular Survey Settlements were commenced in 1824-28, but ended in failure The Government's share was fixed at 55 per cent of the produce This proved oppressive A resurvey was commenced in 1835 Lands were classified into nine different classes according to their quality, and settlements were made directly with the ryots The assessment was fixed without any reference to the cultivator, and when those rates were introduced, the holder of each field was summoned by the Collector and informed of the rate at which his land would be assessed in future, and if he chose to retain it on those terms, he did, if he did not choose, he threw it up[5] This settlement was made for 30 years Before the expiry of the first thirty years' settlement, the issue of introducing a Permanent Settlement in Bombay was taken up but was however decided against As the prices of the produce were then rising, the Government looked forward to a proportionate increase in the land revenue at the next settlement To the indebted peasantry, the revised settlement meant additional hardship which was one of the causes of the Deccan Riots of 1875 Besides the other measures of relief provided for the peasantry, the most significant step was the enactment of the Bombay Land Revenue Code of 1879

[5] Evidence of Goldfinch, Fourth Report of the Commons' Select Committee 1853, quoted by R C Dutt Economic History of India in the Victorian Age (1903), seventh edition, 1950, p 53

Under this Code, revenue on land was assessed according to the purpose for which the land was used, whether it was agriculture, or building or some other purpose The rate of assessment was arrived at empirically with reference to general economic considerations, and in practice was based on the actual rents paid rather than on any theoretical considerations of the net produce[6] The amendment in 1939 to the Bombay Land Revenue Code, in fact, definitely recognised rental value as the basis of assessment It also empowered the Provincial Government to revise assessments in any year in accordance with changes in prices.

Assessment under Mahalwari

The assessment under the Mahalwari system aimed at fixing a moderate revenue to be paid by each village as a whole.[7] The basis of assessment was, what are called, "net assets" The maximum revenue demand which was originally fixed at one-half of the net assets was reduced to one-fourth in 1928 and net assets were clearly defined for the first time to mean the estimated average annual surplus produce of an estate or group of estates after deduction of the ordinary expenses of cultivation. An elaborate procedure had to be adopted for determining in terms of money the value of the net assets The practice was to calculate net assets on the basis of rents paid by tenant cultivators who usually paid a fixed share of the produce These estimates were then checked up with reference to the cash rents prevailing in the assessment circle The produce estimate was based on several factors, such as the average acreage of all crops sown and matured, the average yield per acre of each of these crops, the average obtainable in the village and the actual share of the gross produce received by landowners.[8] The net assets were thus calculated "upon landlords' rentals and not upon owner-cultivators' profits" The assessment for the circle having thus been determined, it was thereafter distributed village by village and for all the holdings in due consultation with the landowners.

---

[6] Indian Taxation Enquiry Committee's Report 1924-25, p 60

[7] For a fuller report of the system see the Report of the Punjab Land Revenue Committee (1938).

[8] *Ibid*, p 7

Though the general pattern of land revenue settlement and assessment in India broadly follows the above classification, the development of the different systems has not been on the same lines in all the States This disparity has been further widened with the integration of the former Princely States where except in a few States administered by retired or deputed officers from British India, there were no regular settlements or systems of land revenue. The result is that, at one end, there are States like the Punjab, Bombay (before the merger of certain Princely States), Madras, Assam and Mysore in which practically all the land has been surveyed, measured and settled on some definite principles At the other end, there are States like Rajasthan and Saurashtra and Madhya Bharat regions where there are still large portions of unsurveyed and unsettled lands and settlements made in the past followed no scientific principles and have been more or less the result of political conditions prevailing in the States at that time In between these two extremes, there are States like Uttar Pradesh and Madhya Pradesh where there have been regular settlements on lands, but owing to the prevalence of the Zamindari system, several intermediaries had crept in

Basis of Land Revenue Assessment

It seems hardly necessary to describe in great detail the methods of assessment in all the States[9] The existing methods in different States may be summed up, following the Taxation Enquiry Commission's Report, as follows

Though the States follow different methods in calculating the land revenue payable to Government, certain common principles are discernible Under these principles, the methods can be classified as follows (i) net assets or economic rents, (ii) net produce or annual value; (iii) empirical, (iv) rental value, (v) capital value and (vi) gross produce

Net Assets or Economic Rents· The net assets are defined as "the estimated average annual surplus of an estate or groups of estates remaining after deduction of the ordinary expenses of cultivation as ascertained or estimated" In other words, it is rent less all costs incurred in earning the rent The cost incurred by the landlord is deducted from the gross produce which is valued in terms of money at the commutation rate, usually the average price of a particular crop for the preceding 20 years or more This method is prevalent in the Punjab, Uttar Pradesh, Madhya Pradesh, Himachal Pradesh, Pepsu, Ajmer and Delhi In the temporarily settled areas of Bihar, Orissa and West Bengal, the principle is adapted to local conditions

---

[9] For details see the Report of the Taxation Enquiry Commission 1953-54, Vol III (1955), pp 263-284

Net Produce or Annual Value: The average outturn per acre of the staple crops for different kinds of soil is at first determined on the basis of crop-cutting experiments and enquiries in the field The gross value is then estimated on the basis of commutation price, that is, the average price of the preceding 20 non-famine years The net produce or annual value is then derived by deducting from the gross value, the cultivation expenses and also by making certain allowances for bad seasons Cultivation expenses included expenses on ploughing cattle, agricultural implements, seed, manure, wages of labour required for sowing, transplanting, reaping, threshing, etc Madras is the only State which has accepted this principle as the basis of land revenue assessment

Empirical· The method is called empirical because at the time of the settlement several factors are taken into consideration, such as the economic background of the tract, the area under cultivation, the trends in the cultivated area and agricultural occupations, the trends in material condition of the people, the proximity of markets, the facilities of communications, the fluctuations in prices of main staples, land values of the tract, etc The aggregate amount of assessment is first fixed for the whole of a tract and then distributed over the villages and individual survey numbers by means of maximum rates for the various classes ,of land Bombay, Hyderabad, Mysore and certain areas in Rajasthan, Manipur and Tripura follow the empirical basis

Rental Value: The main emphasis in all the above States except Madras is on rental value. Though the basis of assessment is net assets or empirical, the general procedure is to determine the actual rents received by the land holders and then to fix the assessment after allowing for certain deductions. In recent tenancy legislation, the trend is to fix the maximum rents payable by the tenants In future, therefore, the rental value cannot provide a reliable basis for determining the land revenue

Capital Value Capital value has not been adopted as the main principle in any State though at the time of the settlement, the sale and mortgage value of the land forms one of the factors determining land revenue

Gross Produce: Gross produce was the basis of assessment before the adoption of scientific method In Assam, this basis still continues and the limit of assessment for any tract has been fixed at 10 per cent of the value of the gross produce of that tract

Abolition of Intermediaries The developments which have taken place after Independence have set new and important tasks to the revenue administration of the States involving significant changes in the agrarian pattern of the country, and, therefore, in the land revenue systems as well The integration of the former Princely States with India and the reorganisation of States posed problems of great magnitude Several measures of tenure and tenancy reforms have been undertaken by State Governments These, obviously, have indicated the need for a vital change in the old revenue policy The system of permanent revenue settlement, it was realised, had become outmoded because of the evils of absentee ownership and rack renting The abolition of intermediary tenures, imposition of ceilings on ownership of land and many connected reforms[10] are designed to make the tiller of the soil the proprietor and to bring him into direct relationship with the State

After the abolition of intermediaries, one of the reform measures which has been taken up for consideration is to bring about some equity in land revenue settlement This involves attempts to reduce disparities in assessment caused by settlement of lands in different time periods The Taxation Enquiry Commission studied this problem in great detail and made some recommendations which are analysed in the following paragraphs

---

[10] Discussed in Chapter VIII — Land Tenure and Land Reforms

The Taxation Enquiry Commission's Recommendations

"The States realise about Rs 70 crores from this source (land revenue), and no alternative method which has so far been suggested is likely to yield a revenue which even approximates to that figure," wrote the Commission[11] The alternatives suggested to land revenue are agricultural income-tax in combination with low flat rates of land tax, sales tax at the first point of sale by producer and lastly, sliding scales of revenue correlated to prices — directly or through surcharges on sliding scale on land revenue. The first two are independent of land revenue The other two are related to land revenue with a view to securing for the State a portion of benefit accruing to the agriculturist with as little disturbance as possible to the existing system Before considering these suggestions, the Taxation Enquiry Commission's recommendation regarding 'standard assessment' may be studied

Standardisation of Assessment

The most important part of the scheme has to do with what is called the 'basic pattern' Taking a hypothetical State where settlements were due for revision in the 'thirties, the Commission laid down proposals for standardisation of assessment and revision and for apportionment of land revenue to local bodies The Commission recommended that the basic pattern of settlement and revision, while largely similar to the existing ryotwari pattern, should make a departure from it in significant respects The revision of settlement should be divorced from small units and local prices and be based instead on the State or, within the State, on homogeneous regions For this purpose, existing disparities of assessment should first be corrected with reference to a criterion that can be applied on a State-wide basis Thereafter, at the "standardised" level which the assessments then assume, they should be revised for the State as a whole or for the regions, at intervals which are neither unduly short nor unduly long Each such revision, whether upward or downward, should again be within strictly defined limits and should be effected with reference to an adjusted price factor worked out for the whole State or for each of the regions Standardisation is necessitated by the disparities in original assessment due to differences in resettlement rates of different regions at different times The existing disparities are further accentuated by the surcharges superimposed on the present assessment pattern Further, resettlement costs will be too heavy to undertake wholesale revision

---

[11] *cf* Report of the Taxation Enquiry Commission 1953-54, Vol III, *Op cit*, p 209

In standardisation of assessment, disparities in assessment cannot be entirely removed Further, some rules regarding changes in assessment in direct relation to changes in prices have to be framed For ready application, a simple, standardising measure has been suggested If all resettlements were due at the same time, the same increase in assessment would be called for in the case of all lands Settlement or resettlement, with reference to commutation prices of previous 20 years, has been the usual procedure for fixing assessment in any year This period may be called "the relevant price-period" As prices have been rising over the past 100 years, the earlier the relevant price period, the lower the level of assessment An *ad hoc* method of ready applicability consists in grading increases in relation to price period relevant to settlement or resettlement at which the existing assessment was fixed The maximum increase has been fixed at 25 per cent and all settlements have been reduced to four categories with reference to relevant price period as follows

Relevant price period	Average price level (1873=100)	Increase in assessment (per cent)
1880-99	124	25
1900-19	195	12½
1920-39	242	6¼
1940 onwards	697	nil

Source Report of the Taxation Enquiry Commission 1953-54, Vol III, p 227

Each State will have to work out details of standardisation according to local conditions If relevant price period falls in more than one of the groups in the above table, that in which majority of relevant years fall should be taken for standardisation

Revision in Settlement

As for revision of settlement, the time taken now is too long Decennial changes in assessment, which permit of more or less automatic revision with reference to price levels, may help to save cost In making changes in assessment, changes in price cannot be taken at full face value Moreover, costs of production change A practicable method of allowing for changes in costs of production, which would normally occur in the same direction as changes in prices, would be to base the adjustment on a fraction of the price change This would be particularly suitable during a phase of rising prices Enough safeguard in case of price fall should be provided to cultivator

In computing the price index and price change, the major crop of an area has to be considered If the crop is a food crop, it should be the price of that crop Where a commercial crop predominates greatly, the price of that crop should be taken as the base If both food and commercial crops are grown, a composite index may have to be constructed In fixing the 'base' and 'current' periods for reassessment, the base should be regarded as a period of not less than ten and not more than twenty years preceding the standardisation and for first revision the current period would be the ten years intervening standardisation and its revision Revision should be with reference to the relevant price period, where price change has been more than 25 per cent in either direction This does not apply to revision of settlement that has to do with change of land from dry to wet category or the opposite This is explained in the following table

Price Change (per cent)		Land Revenue (per cent)	
Rise	Fall	Rise	Fall
25	25	nil	nil
25	31¼	3⅛	6¼
31¼	37½	6¼	12½
37½	43¾	9⅜	18¾
More than 43¾ on either side		12½	25

In other words, when price falls, the cultivator is compensated by relatively steeper reduction in revenue rates But the cultivator benefits if prices rise and the tendency is often for prices to rise, of late, especially if slight inflation is accepted as an accompaniment of development, even if prices are relatively stabilised In that case, it is justifiable to claim a larger portion than that stated in the above table Further, if (say) prices fall in current period and rise later (on the average), then using a formula as above would in no way benefit the Treasury Moreover, as the Commission itself pointed out the standardised assessment can be used only in a few States completely In fact, it is suggested that "every State which has to undertake the initial settlement, should, unless there are good reasons to the contrary, adopt the basis that is in operation in the adjoining States or area "[12] In the former zamindari tracts, it will have no more than a "notional" value Because of limited applicability, the Commission's suggestions may not be of much value, if prices are still to rise after an initial fall

Among the alternatives suggested, the combination of agricultural income-tax with a flat land tax as in Travancore-Cochin was rejected by the Madras Land Revenue Reforms Committee (1951) on grounds of inequity as well as loss from wet lands due to low level of taxation[13] This argument holds true for most of the States

The suggestion of the sales tax on producer at the first stage of sale has been rejected as financially and administratively not feasible The scope for evasion is very great in the case of such a tax The alternatives left are a sliding scale assessment and surcharge on land revenue

Sliding Scales and Surcharges

The essential purpose of sliding scale assessments and surcharges is to introduce in the land revenue systems an element of responsiveness to changes in prices and incomes, over short periods, without disturbing the basic character of land revenue system They are based on the perfectly valid idea, as the Commission calls it, that when prices go up or down as much as they have in the last two decades, changes in the burden of land revenue are justified from the point of view of both the Government and the land holder The changes that may be brought about through a surcharge at State level or sliding scale assessments at the local level to fit in the local variations in prices are not related to flat local surcharges to reduce disparities in settlements due to temporal causes They are purely of short period nature, but take into account the change in local prices in the case of localised crops and changes in State-wise prices in the case of staple crops to determine the level of levy But the Commission admitted that "the difficulty is that of fitting the idea into the system"

---

[12] *Op cit*, p 233

[13] For a discussion, see the Land Revenue Reforms Committee, Madras, Second Report (1951), pp 18-20

Sliding scale assessment was attempted in pre-Partition Punjab Maximum assessment was fixed for each circle on the basis of commutation prices, *i e*, average of prices during the twenty years preceding the year of settlement Thereafter, annual changes in prices based on market reports were taken into account to determine the percentage mark-up or mark-down that should be made in assessment in relation to the changes in prices But the most important obstacle was that of constructing an index number for prices in the 1930's At present, with the changing nature of the economy through improvements in irrigation and agricultural extension, the crop pattern is changing and will change further The price changes have been favourable to the landowner With the increasing monetization of the economy and regulation of markets, State-wide price changes have more significance and local variations get ironed out quickly In such a context progressive surcharges on land revenue will have more validity than sliding scale adjustment Further, on commercial crops, special cesses are levied which are *ad hoc* in nature It is preferable to levy such *ad hoc* cesses because it is difficult to forecast the price changes The cesses may be retained, changed, or abolished depending on the changes in price levels They need not be fitted into a system These cesses combined with sliding scale surcharges on land revenue can bring revenue to the government as well as introduce an element of equity in land taxation The elaborate procedure involved in standardised assessment can very well be avoided

Recent Developments

At present, surcharges are being levied in Andhra Pradesh, Uttar Pradesh, Punjab, Rajasthan, Madhya Pradesh and Madras, to fit the above elements in their land revenue pattern For example, in Andhra State, a graded surcharge on land revenue was levied up to February 1957 After the reorganisation of States, it was decided to abolish the Hyderabad Agricultural Income Tax Act, 1950 that was in existence in the Telangana districts of Andhra Pradesh, and also the surcharge on land revenue in the rest of the State Instead, a fresh surcharge was levied with effect from 1st July, 1957 on dry and wet lands in the Andhra area and dry lands in Telangana area on persons paying more than Rs 10 as land revenue The surcharge varies from 13 to 50 per cent for land revenue above Rs 500. In the case of wet lands in Andhra area, the levy applies to the land revenue element only which is calculated at 25 per cent of the consolidated assessment The wet lands of Telangana region are exempt from the surcharge, because it is felt that assessment rates prevailing there are already high The exemption level for the surcharges is very low and gradations are only three in number This makes the surcharge more burdensome on the small farmer

Uttar Pradesh substituted a Large Holdings Tax for the agricultural income-tax in the financial year 1957-58 A holding tax is levied on all land holdings the annual value of which exceeds Rs 3,600 No tax is levied on holdings of less than 30 acres in size For the purposes of assessment, the annual value of the holding is fixed on the basis of a certain multiple not exceeding 12½ per cent of the rent payable for such land The rates of the holding tax follow a graduated scale so that the larger the annual value of the holding, the greater the rate of the tax The rate on the first Rs 1,800 of annual valuation is nil It increases progressively up to 60 *Paise* in a rupee for the slab exceeding Rs 35 000

Under the Punjab Land Revenue (Special Charges) Act, 1958, a special charge on land revenue is levied on landowners on a graded basis The charge is recoverable as land revenue The rate is 50 per cent where land revenue exceeds Rs 50 but not Rs 100 annually It increases progressively up to 300 per cent for land revenue exceeding Rs 1,000 per annum. The Rajasthan Land Revenue (Surcharge) Act of 1960 follows the same basic pattern The surcharge varies from 6¼ per cent to 12½ per cent for land revenue above Rs 250 per annum Holdings paying less than Rs 50 per annum as land revenue, are not liable to the surcharge The rates of levy in Rajasthan and the Punjab are however much lower than the compounded rates of agricultural income-tax in Madras and Mysore But the exemption levels in the northern States are much higher Moreover, there is no adjustment for the crop grown as is the case with Madras and Mysore

Some States have imposed special surcharges on the cultivation of commercial crops For example, the Andhra Pradesh Commercial Crops (Assessment) Act of 1957, provides for the levy of special assessment of Re 1 to Rs 5 per acre on land holdings above 10 cents in size growing commercial crops. The assessment rates are Rs 5 per acre for turmeric, sugarcane and plantations, Rs 3 per acre for coconut, chillies and tobacco (Virginia), Rs 2 per acre for citrus crop, and Re 1 per acre for cotton, groundnut, tobacco and casuarina Though commercial crop cesses are levied either on *ad valorem* basis, as for example, in the case of groundnuts in Punjab or on the basis of acreage or even on the basis of weight as in the case of sugarcane, the rates are flat rates and are proportional in character Apart from these changes, in Orissa and Assam, legislation has been passed to reduce the inequalities in land revenue due to differences in time periods in which the settlements were made In Bihar, a cess of one anna in a rupee of rent is levied to finance primary education Similarly, a flat surcharge on land revenue at the rate of 2 annas per rupee is being levied in Madras since 1955 to assist local bodies in maintaining and improving rural communications The flat surcharges add to the increase of land revenue at the lowest levels by a small percentage unlike the progressive surcharge Thus, in several States where the agricultural income-tax is not levied, adjustments to bring about an element of equity in taxation of land owning classes are sought to be achieved by progressive surcharges

PROGRESS IN LAND REVENUE COLLECTION

The significance of land revenue has considerably changed over the long period of its history The change is noticed in (i) the burden on the person who pays it, (ii) the place which land revenue occupies in the composite fiscal pattern of the country, and (iii) the general level of land revenue in relation to the levels of agricultural prices It is claimed that progressive monetization, the development of internal transport, the growing commercialisation of agriculture and the general evolution of an all-India market with the steady support thus provided to local prices have served to lighten the burden of land revenue in the decades that have passed

From 1890 up to the period of World War I, the level of land revenue would appear to have been fairly steady in spite of the price being 5 to 6 times higher Expressed in terms of the price of foodgrains, the land revenue receipts declined from 1873 to 1912[14] Thereafter, there was a sharp rise in agricultural prices, foodgrains prices almost doubled This led to a substantial reduction in the burden of land revenue collected even after adjustment for the rise in foodgrains prices After 1929, however, there was a trend of decline in prices as a result of the depression Expressed in terms of constant prices, the burden of land revenue was perhaps two-thirds higher during the period 1930-37. The World War II, by causing an increase in the price of foodgrains to more than four times the pre-war level, once more drastically reduced the burden of land revenue Since 1948, the burden, however, seems to have shown an increase[15]

Apart from the changes in the burden in the different periods, the general inference is that the long-term trend has been in the direction of a steady and, latterly, drastic reduction in the burden

---

[14] Taking the base year as 1873=100, the index was 89 during 1873-82, 94 for 1883-92, 92 for 1893-1902 and 84 for 1903-12

[15] Most of this is reported to be statistical, being the result of the merger of parts of certain former Princely States with Part A States and the conversion of rent into land revenue in consequence of the abolition of Zamindari

This is also confirmed by the steady decline, since the middle of the last century, in the proportion which the land revenue collections bear to the total revenue receipts of the Centre and the States Table I gives the receipts from land revenue as a proportion of total revenue prior to World War II

TABLE I

RECEIPTS FROM LAND REVENUE AS A PROPORTION OF TOTAL REVENUE (CENTRE AND STATES)

	(in per cent)
1793-94	69.0
1808-09	61.1
1818-19	73.1
1839-40	70.6
1850-51	66.5
1871-72	42.8
1881-82	35.5
1891-92	36.5
1901-02	33.9
1911-12	31.3
1938-39	16.1

Source Report of the Taxation Enquiry Commission 1953-54, Vol III, *Op cit*, p 216

Table II gives the annual receipts of land revenue as a proportion of the total tax revenue of all States since 1950.

TABLE II

LAND REVENUE RECEIPTS FOR ALL STATES 1950-51 TO 1963-64

(Rs in crores)

Year	Land Revenue	Total Tax Revenue	Land Revenue as proportion of Total Tax Revenue
1950-51	49 6	—	—
1951-52	48 0	281 1	17 0
1952-53	57 4	304.9	18 8
1953-54	71 0	330 3	11 4
1954-55	73 0	337 2	21 6
1955-56	78 0	356 1	21 9
1956-57	83 2	395 7	21 0
1957-58	87 7	472 0	19 0
1958-59	91 8	537 1	17 0
1959-60	95 1	577 4	16 4
1960-61	97 2	624 8	15 5
1961-62	95 2	662 6	14 3
1962-63	120 0	794 0	15 1
1963-64	118 2*	916 2*	12 9

Source "Finances of State Governments," *Reserve Bank of India Bulletin,* Vol XIII, No 6, June, 1959, p 678, Vol XVII, No 4, April, 1963, p 452, and Vol XVIII, No 5, May, 1964, p 592

* Revised Estimate

It may be noted that the relative share of land revenue in the total tax revenue has further declined to 12 9 per cent in 1963-64 The decline in the importance of land revenue was due to the growth and increased importance of new forms of taxation, such as income-tax, customs and excise at the Centre and Sales Tax and other taxes in the States

The incidence of land revenue for different income groups in the rural sector could only be estimated if a classification of rural incomes in different groups were available, together with the land revenue payable by these different classes As these data are not available, it is not possible to indicate the relative incidence of land revenue in these terms There are considerable variations in land revenue assessment between different types of agricultural land in a State, and, even more, from State to State There is, however, a certain average burden of land revenue on agriculture in the country which is indicated by the ratio of the total land revenue collected to the total (gross or net) value of agricultural output The gross value of total agricultural output (at current prices) in India for 1950-51 was estimated at Rs 4,780 crores, whereas land revenue collection amounted to Rs 49 6 crores, which is roughly 1 03 per cent of gross value[16] In 1960-61, the gross value of total agricultural output (at current prices) increased to Rs 6,640 crores[17] and land revenue amounted to Rs 97 2 crores, constituting 1 46 per cent of gross value and 1 6 per cent of the net value added in agriculture By any token, this must be considered as very low There is therefore considerable scope for increased taxation of higher agricultural incomes

Since 1950-51, substantial increase in land revenue collections has taken place mainly owing to abolition of zamindari and other land reforms The receipts of land revenue show an increase of Rs 45 6 crores between 1950-51 and 1961-62 But this entire increase cannot be attributed to land reforms It reflects the combined effect of (i) abolition of intermediaries, (ii) imposition of land revenue on land previously held assessment free, (iii) imposition of land revenue on Ryotwari basis on hitherto *inam* lands, (iv) imposition of surcharge on land revenue, and (v) step-up in land revenue assessment in some of the States. Of these, the last four measures are a part of the effort of the State Governments to raise additional revenues The yield from these measures is estimated at Rs 17 9 crores during the First and Second Five-Year Plans[18] Since the annual revenue from these measures has been quite small, a major portion of the increase in land revenue receipts over the last decade must be attributed to the abolition of intermediaries The increase in land revenue shown in Table II is, however, not the net increase in the revenues, inasmuch as the State Governments, especially Bihar, Orissa and West Bengal in which assessment was permanently settled, have to incur considerable expenditure on building up adequate machinery for land revenue administration for the purpose of maintaining record of rights, registration of transfers, partitions, sales, etc , and collection of land revenue, all of which was hitherto the responsibility of the zamindar It may be noted that the current expenditure on land revenue administration in the States has increased from Rs 7 37 crores in 1950-51 to Rs 37 24 crores in 1960-61[19] Some of this expenditure, however, will not be of a recurring character (like that on cadastral survey and record of rights) and as such, with the efflux of time, the expenditure on revenue administration may decline As a consequence of the zamindari abolition legislation, the State Governments concerned are now receiving as revenue from the new occupants what the erstwhile zamindars were receiving as rents from them This amount is evidently much larger than what the State Governments were receiving as land revenue from the zamindars, the additional amount being the difference between the total quantum of rent paid by the ex-tenants to the zamindars and the land revenue paid by the latter to the State Governments Against the additional income, the State Governments have assumed the responsibility to pay compensation to the zamindars During the last decade (1951-61), the net addition to land revenue receipts (deducting the increase in expenditure on land revenue administration) amounted to Rs 74 34 crores, as against this the compensation paid during this period amounted to Rs 86 71 crores This left the States aggregatively with a net deficit of Rs 12 crores Only the States of Uttar Pradesh, Bombay, and Mysore had a positive balance at the end of the Second Five-Year Plan The amounts payable as compensation will be considerably larger during the Third and the Fourth Five-Year Plans Since acquisition of almost all the zamindaris is over, further additions from this source are not likely to go up in the future

---

[16] Data relating to the value of agricultural output are not available on a comparable basis for earlier years, even land revenue collection figures for the earlier years would be imprecise because land revenue collections of the former Part B States are not available It is estimated, however, that land revenue formed less than 4 per cent of the gross value of agricultural output and about 4 5 per cent of net value in 1938-39 Report of the Taxation Enquiry Commission 1953-54, Vol I (1955), p 73

[17] Estimates of National Income 1948-49 to 1960-61, Central Statistical Organisation, Government of India (1962), p 2

---

[18] *Vide* M L Dantwala, "Financial Implications of Land Reforms," *Indian Journal of Agricultural Economics*, Vol XVII, No 4, October-December, 1962, p 7

[19] *Ibid*, p 8

By and large, land reforms have not affected the pattern of land taxation in India Even the recommendations of the Taxation Enquiry Commission for rationalization of land revenue taxation have not been implemented We may now deal with the other forms of agricultural taxation, particularly agricultural income-tax

AGRICULTURAL INCOME-TAX

The Taxation Enquiry Commission (1953-54) recognised that none of the alternative measures of taxation could be an effective substitute for land revenue from the point of view of the finances of State Governments, though some of the measures such as agricultural income-tax may indeed be extremely appropriate as features supplementary to land revenue itself Examining the significance of agricultural income-tax in the tax structure of the States, the Taxation Enquiry Commission observed that "an agricultural income-tax on the higher agricultural incomes should be adopted by all the States which have not yet done so because of the greater equity it brings into the system, if not of the revenue it brings to the exchequer" While it would not be practicable to aim at achieving uniformity in rates, it should be possible to have uniform limits of exemption The Commission suggested Rs 3 000 as the reasonably adequate limit of exemption The fact that agricultural and non-agricultural incomes are treated as two distinct compartments, State and Union, for purpose of taxation, has given rise to many anomalies Therefore, it has been suggested that from the point of tax equity, the eventual policy should be to merge agricultural income with non-agricultural income and levy one income-tax, the proceeds being made divisible between the Union and each State in the proportion of the two categories of income As a first step in this direction, it was recommended that the States should adopt a system of surcharges on agricultural income-tax, the rates o surcharge being fixed so as to vary with the assessee's non agricultural income The surcharge should be on the agricultural income-tax, expressed as a fraction of it[20]

The agricultural incomes in India have been exempted from the general income-tax except for two short periods of nine years in all between 1860 and 1865 and 1869 to 1873 The position remained unchanged until the passing of the Government of India Act in 1935, though the Indian Taxation Enquiry Committee (1924-25) had favoured in principle the imposition of an agricultural income-tax[21] A separate provincial levy on agricultural incomes became possible only after this Act Even under the present Constitution the two types of income are separated and agricultural income taxation is assigned to the States Bihar was the first State in India to levy a tax on agricultural incomes in 1938, after a lapse of nearly 60 years The other States which now levy the tax are Assam, West Bengal, Orissa Uttar Pradesh,[22] Kerala, Madras, Mysore, Madhya Pradesh and Jammu & Kashmir The existence of large plantations of a commercial character and big land holders in the permanently settled areas of some of the States provided the basis for the levy of an agricultural income-tax Madras has restricted the tax to income from plantations Although Maharashtra has also introduced this tax since 1962, the tax has been specifically designed to affect mainly the large sugarcane farms In the former Princely States of Hyderabad and Travancore-Cochin (Kerala), agricultural incomes along with non-agricultural incomes were taxable even before the integration of those areas with the rest of India After integration only agricultural income-tax is levied by the State Governments

---

[20] Report of the Taxation Enquiry Commission 1953-54, Vol III, pp 221-223

[21] The Indian Taxation Enquiry Committee observed in 1925 "There is no historical or theoretical justification for the continued exemption from the income-tax of incomes derived from agriculture There are, however, administrative and political objections to the removal of exemption at the present time There is ample justification for the proposal that incomes from agriculture should be taken into account for the purpose of determining the rate at which the tax on the other incomes of the same person should be assessed, if it should be administratively feasible and practically worthwhile" Quoted in the Report of the Taxation Enquiry Commission 1953-54, Vol III, *Op cit*, p 198

[22] In the case of Uttar Pradesh, this tax was replaced since July 1, 1957 by the Large Land Holdings Tax Rajasthan also levied agricultural income-tax from 1953 to March 1960, when it was abolished

The agricultural income-tax is charged on the total agricultural income of the previous year of every person, including an association of individuals, undivided Hindu family, a firm or a company The rates of levy have been laid down in the enactment itself in some of the States, while in others the rates are fixed annually under the Finance Acts Apart from the exemption granted to levels of income certain types of agricultural incomes are also exempted, such as incomes derived from property held under trust or other legal obligation wholly for religious or charitable purposes, sums received by individual assessees out of agricultural incomes of undivided Hindu families, association of persons, firms or companies, which are already taxed, etc. The exemption limit is Rs 3,000 in the States of Bihar, Assam, West Bengal, Madhya Pradesh and Jammu & Kashmir The exemption limits are higher at Rs 5,000 in Orissa, Rs 3,600 in Uttar Pradesh and Madras and Rs 3,500 in Mysore In Maharashtra, the exemption limit is Rs 36,000 which is rather an exception The exemption limit prescribed for undivided Hindu families is Rs 6,000 in Kerala and Rs 7,000 in Mysore

The rates of agricultural income-tax in all the States are based on the slab system thereby introducing an element of progressiveness in the tax The tax free slab is Rs 1,800 in Uttar Pradesh, Rs 3,000 in Orissa and Jammu & Kashmir and Rs 3,600 in Madras For other States, the tax free slab is Rs 1,500 The minimum and maximum rates are 3 nP and 78 nP in the rupee in Orissa In Uttar Pradesh, the maximum rate is 60 nP In other States, the maximum rate varies from 25 nP to 45 nP. in the rupee In Maharashtra, a flat rate of 50 nP in the rupee is levied It may be noted that in Madras, Mysore and Kerala, a compounded tax is levied with a view to relieving the smaller assessees of the burden of keeping detailed accounts In Madras, any person holding land not exceeding four times the exempted limit of 12½ standard acres could apply for permission to compound the tax payable by him and to pay instead a lump sum in a prescribed manner The rates of tax followed a graduated scale No tax was levied on the exempted limit The rate of tax varied from Rs 4 50 to Rs 15 per standard acre on holdings between 20 and 50 standard acres

In Mysore, any person deriving agricultural income from land not exceeding 150 acres in extent of the eighth class of land is permitted to compound the agricultural income-tax payable by him and to pay instead a lump sum at the rate of Rs 2 per acre In Kerala also, any assessee other than a company is allowed to compound the tax payable by him for a consolidated payment of Rs 75 from April 1960 or any subsequent year if his total agricultural income for the previous year does not exceed Rs 5,000 Agricultural incomes have also been subjected to super-tax in Bihar, Kerala, Madhya Pradesh (Bhopal) and Mysore when income exceeds Rs 25,000 In Bihar and Madhya Pradesh (Bhopal) the structure of rates is more or less similar, the rate varies from a minimum of 6 nP in the rupee on the first income slab of Rs 10,000 after the exempted limit to a maximum of 33 nP in the rupee In Kerala, the minimum rate is 12 nP in the rupee on the first Rs 15,000 after the exempted limit, rising to a maximum of 34 nP in the rupee Besides, in this State super tax is levied on the agricultural incomes of companies on a slab basis, the rate varying from 12 nP in the rupee on the first slab of Rs 1 lakh to 31 nP in the rupee on amounts exceeding Rs. 10 lakhs In Mysore, it varies from a minimum of 9 nP on the first Rs 25,000, after the exempted limit to a maximum of 25 nP in the rupee It may be mentioned that no State seems to have levied a surcharge on agricultural income-tax on the basis of assessees' non-agricultural income[23]

Receipts from the Agricultural Income-Tax

The receipts from the agricultural income-tax in different States during 1950-64 are given in Table III The total receipts increased from Rs 4 1 crores in 1950-51 to Rs 9 3 crores in 1963-64 While the average annual receipts are estimated at Rs 4 5 crores for the First Plan period, the corresponding average for the Second Plan period amounted to Rs 8 1 crores The main reason for the rather impressive increase of Rs 3 6 crores in the receipts is the introduction in 1955-56 of the tax in Madras, the annual average receipts of which alone accounted for Rs 1.25 crores during the Second Plan period Another

---

[23] *Reserve Bank of India Bulletin* Vol XVII, No 8, August, 1963, pp 1022-1033

TABLE III

RECEIPTS FROM AGRICULTURAL INCOME-TAX 1950-64

(Rs in lakhs)

State	1950-51	1951-52	1952-53	1953-54	1954-55	1957-58	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64
Assam	79	91	108	89	69	224	299	257	275	288	349	411
Kerala	—	—	—	—	—	183	181	198	235	246	242	225
Travancore-Cochin	50	99	96	90	90	—	—	—	—	—	—	—
Madras	—	—	—	—	7	130	86	154	135	142	116	116
West Bengal	63	64	61	63	64	117	89	73	85	89	84	72
Uttar Pradesh	138	100	71	58	36	53	61	88	83	61	28	6
Mysore	—	—	—	—	—	54	103	88	74	59	76	45
Coorg	—	3	14	15	10	—	—	—	—	—	—	—
Bihar	69	57	46	35	22	14	17	26	51	47	46	44
Orissa	10	13	7	8	8	3	3	3	4	5	11	5
Rajasthan	—	—	—	—	15	2	2	3	3	6	6	5
Andhra Pradesh	—	—	—	—	—	—	—	1	3	1	1	1
Hyderabad	—	11	3	5	5	—	—	—	—	—	—	—
Madhya Pradesh	—	—	—	—	—	—	1	1	1	—	—	—
Bhopal	—	—	—	—	2	—	—	—	—	—	—	—
Vindhya Pradesh	—	—	1	1	3	—	—	—	—	—	—	—
Maharashtra	—	—	—	—	—	—	—	—	—	—	—	5
	409	436	405	377	478	780	842	892	949	944	959	935

Source *Reserve Bank of India Bulletin*, Vol XVII, No 8, August, 1963 p 1028, and Vol XVIII, No 5, May, 1964, pp 596-603.

Note (1) State-wise figures for 1955-56 and 1956-57 are not available, total receipts in these two years amounted to Rs 7 9 crores and Rs 5.7 crores respectively

(2) Data up to 1954-55 refer to States prior to reorganisation and from 1957-58 to the reorganised States

(3) The State-wise figures for 1953-54 and 1954-55 do not add up to the all-India total, while the former are budget estimates, the latter are final accounts

distinguishing feature of this tax is concentration of receipts in a few States, the three States of Assam, Kerala and Madras accounted for little over 70 per cent of the tax collections during last three years This can be attributed to the fact that plantations, mainly tea, are predominant here, these three States together account for about three-fourths of the tea production in the country

The implementation of land reform measures, in so far as they limit size of holdings has resulted in the reduction of the yield from agricultural income-tax As a result of the abolition of intermediaries and conferment of occupancy rights on the tenants, the big land holdings have been disintegrated and consequently, the number of persons in higher income brackets falling within the purview of agricultural income-tax has declined considerably In Uttar Pradesh receipts from agricultural income-tax fell from Rs 138 lakhs in 1950-51 to Rs 53 lakhs in 1957-58 The Uttar Pradesh Government considered the levy of agricultural income-tax as a measure out of date in the post-zamindari abolition era and it was replaced by the Land Holdings Tax As a result, the revenue collections rose to Rs 83 lakhs in 1960-61, but even so the total yield is relatively less than that in 1950-51 Similarly in Bihar, the yield declined from Rs 69 lakhs in 1950-51 to Rs 14 lakhs in 1957-58 In the case of West Bengal also, the yield from this source declined from Rs 168 lakhs in 1956-57 to Rs 89 lakhs in 1961-62 and to Rs 84 lakhs in 1962-63 It may be noted that the decline in receipts from agricultural income-tax was accompanied by an increase in the receipts from land revenue

On the whole, the scope for realising substantial revenues by levying a tax on agricultural income was perhaps greater in those areas where the tenure system was characterised by large holdings Thus Bihar, Assam, West Bengal and Uttar Pradesh, were the first to introduce this tax In the Ryotwari areas like Maharashtra and Mysore where peasant proprietorship prevailed, the scope was comparatively limited With the abolition of the intermediary type of tenure and with the imposition of a ceiling on the existing land holdings resulting in the disappearance of big land holders, the scope for this tax has been considerably restricted.

IRRIGATION RATES AND BETTERMENT LEVY

Other forms of taxation on land are the irrigation rates and betterment levy Irrigation rates are a payment for the use of water and are thus a component of the cost of production Betterment levy is a payment for the increase in the capital value of land on the introduction of irrigation, resulting from the benefit derived by the permanent improvement in the form of an assured supply of water to the land or protection against floods

Rationale of Irrigation Rates

The general principle underlying the 'charges for water' is the fact that investment in irrigation is not one of those public investments whose benefits are more or less evenly diffused among the entire community and the cost of which may be met through the general revenues There exists a group of immediate and principal beneficiaries, that is, the cultivators receiving irrigation Irrigation leads to an increase in farm output brought about through a more intensive use of land resulting in increased farm incomes Irrigation facility is a service and since it involves capital investment, it is but proper that the persons benefiting from it should bear the full cost of water supply so that irrigation works become self-supporting and their burden does not fall on the general community of tax-payers

In the past, the possibility of recovering the cost of irrigation has been an important consideration in selecting projects as is reflected in the productivity criterion that was adopted in the choice of investment in an irrigation project Apart from what were known as the protective works, which were constructed with the full knowledge that they were not likely to bring in full return on the capital invested but were undertaken as a measure of famine prevention, an irrigation project had to be productive, the test of productivity being that the project should be able to show a certain percentage return on the sum-at-charge in the tenth year after the opening of the canal, the sum-at-charge being the capital cost plus the arrears of interest up to that year. In recent years, while the conventional distinction between productive and protective works has largely disappeared and a capital work is judged from a broad social benefits point of view, the productivity test is still applied, though not rigidly, in judging the financial soundness of a project In other words, it is ascertained whether the expected annual income would be sufficient to meet the annual cost[24] of the project

A very important issue in regard to irrigation rates is the method of determining the rates The Taxation Enquiry Commission discussed the various methods of charging for water, but came to the conclusion that while a particular system may be the theoretically ideal one, its practicability may not be so easy to determine There are two important factors that have to be borne in mind before any method is adopted These are (1) equity for the farmer who pays the water rate and (2) revenue for the government from this particular source It is felt that the objectives of a satisfactory structure of water rates should be as follows (i) the total recoveries on account of water rates should not be less than the annual cost incurred by the State for providing the service, (ii) the water rate for a crop should be equitable, in the sense that it should be related to the ability of the crop to bear it, and (iii) water rates should be so pitched as not to leave any irrigation potential unutilised on account of either the system of charging rates or the level of particular rates [25]

The two main considerations in fixing water rates are cost and benefits On the side of cost, the necessity of recovering total cost, both fixed and variable, or the recovery of variable cost alone, may determine the level of rates On the side of benefit, the water rates, at the maximum, could take away the entire net benefit available to the irrigator

The Indian Taxation Enquiry Committee of 1924-25, pointed out that water should not be supplied at a rate which did ~~not~~ cover the interest on the capital ~~cost and~~ cost of maintenance ~~of the~~ work, except in the case of protective works The other important criteria suggested for determining water rates are quantity of water supplied, value or net profits and prices The

---

[24] Annual cost refers to the cost of maintenance and operation, depreciation charges and interest on capital invested

[25] Report of the Maharashtra State Irrigation Commission, Government of Maharashtra (1962), p 69

Committee came to the conclusion that a combination of the nature of the area irrigated, crop and prices would be the ideal basis in fixing water rates The Taxation Enquiry Commission recommended linking the water charges to the maintenance costs The maintenance costs are of two types · (i) those which have to be incurred to keep the irrigation project in working order, and (ii) those which have to be incurred to supply water to the cultivators Thus, according to the Commission, the water charges should comprise (i) a small charge covering the cost of repairs, establishment, etc , to be recovered from every land holder under the command of the irrigation project, irrespective of whether water is taken by them or not, and (ii) an additional charge for the supply of water which will primarily cover the debt charges, overhead expenses, etc , to be levied on those who actually make use of the water from the project. The Commission pointed out that while these aspects should form the basic principle, other considerations while fixing the water rates should be the quantity of water supplied, value of crop grown, extent of benefit realised by the cultivator and ability of the cultivator to pay.[26] The First Five-Year Plan conceives the water rate as "a charge dependent on the kind and extent of crops grown and is based on the quantity of water required by the crop and the advantage derived from the use of it by the cultivator It has no relation to the cost of supplying the water" While the Plan does not directly relate the water rate to the cost of irrigation, water charges are still considered an important source for the recovery of costs as can be seen from its suggestion that the old revenue structure should be modified in the light of the expensive nature of new projects and the increased cost of maintenance and operation of the new projects, if the new projects are to satisfy the productivity test

Methods of Water Rate Fixation

One of the major methods in fixing water rates is the net benefit available to the cultivators from the use of water supplied The additional net benefit accruing to the farmer on account of the use of irrigation water is measured by the difference between the net benefit received 'before' and 'after' the use of canal water In any system of water rate, the upper limit to the ability of a crop to bear the water rate is indicated by the entire net benefit to the irrigator from his irrigated crop However, in practice, it would be desirable to recover through water rate only a portion of the net benefit so as to provide incentive to the farmer to use irrigation water But determination of net benefit presents many difficulties The use of irrigation water is invariably accompanied by the use of other factor inputs such as fertilizers, employment of additional labour, etc , so that it may be difficult to isolate the net benefit as flowing from irrigation alone Thus with this limitation in ascertaining 'net benefit,' it is suggested that a simpler method of fixing the water rates would be to determine them on the basis of the "value of crop" grown It is argued that a water rate which varies with the value of the market price of crops, is equitable and also provides scope for variation in the charges according to the quantity of water used by different crops The Report of the Maharashtra State Irrigation Commission discusses at length the problem of determining the net benefit as the basis of water rate fixation The Report points out that while it may not be possible to compute the net value of additional agricultural production due to irrigation, it may be taken for granted that in normal years there exists relationship between gross and net income and broad calculations could be made on the basis of estimates of only gross values of irrigated crops Thus, the factors that may be taken into consideration in formulating water rates for individual crops would be, firstly, the cost of irrigation water required by the crop and secondly, the level of average gross income obtained from the crop under the usual conditions of fertility, supply of manure, supply of water, level of efficiency of cultivation, prices, etc [27]

---

[26] Report of the Taxation Enquiry Commission 1953-54, Vol. III, *Op cit*, pp 251-253

In India, water charges vary both in the method and the rates of levy with the result that there is multiplicity both in principles and the rates of assessment. Broadly, two methods of charging for water may be distinguished They are, firstly, the optional system of levy and secondly, the compulsory system of levy The various systems of charging for water that prevail are an application in principle of either of these two systems

---

[27] Report of the Maharashtra State Irrigation Commission, *Op cit*, p 70

Under an optional system of levy, the water rates are fixed by the irrigation authorities and the cultivators are free to use or not to use the irrigation facilities at the rates fixed Under a system of compulsory levy, there is a compulsory water charge on each acre of land served by the canal system, whether water is used or not used Under this system, each cultivator is entitled to a certain maximum supply of water and he can get extra water over and above the water allotted for an additional payment Water rates are determined for broad soil types such that the average water rate is equal to the average cost per irrigated acre at full capacity Among the many advantages of a system of compulsory levy, the important ones are that the compulsory nature of payment for water induces the cultivators to fully utilize the capacity created, the average charge is the lowest and further, the full cost of providing water can be recovered

Among the various systems of levying water charges, a few important ones may be noted They are volumetric rate, consolidated rate, differential rate, occupier's rate and agreement rate

Volumetric rate is the charge levied according to the volume of water actually supplied Since water is charged according to the volume used, this system may lead to the economical use of water However, though more scientific in principle than any other system, this system is not generally recommended, since it involves a large initial investment for installing meters to measure the quantity of water supplied The supervisory staff also has to be extensive There is a danger of malpractices on the part of petty officials More important than these reasons is the fact that as the amount of water actually used for irrigation depends on the rainfall in any particular year, the demand for water may fluctuate considerably from year to year, thereby resulting in heavy fluctuations in the annual irrigation receipts of the State

Under the system of charging a 'consolidated rate', water charge is consolidated with the land revenue assessment and is fixed on the settlement principle On the side of merits, this system minimises the number of taxes collected and thereby facilitates and economises the collection of taxes Further, a minimum rate of reimbursement is ensured, since payment of water charges is rendered more or less compulsory However, since water rates are fixed on settlement principle, it may become difficult to increase the rates as and when it is found that the capacity of the crop to pay has increased This system is prevailing in the South, especially on the older works in the States of Madras, Mysore and former Hyderabad

Under the system of a 'differential rate,' the principle is that when a dry land is irrigated from government sources, the water charge should correspond to the difference between the wet rate and the dry rate of assessment of the corresponding land The merits claimed for this system are that it enables a charge in proportion with the yield of the land and further, the inadequacies and defects of a method of fixed water rates can be eliminated However, this system can be applied only in those areas where the necessary land classification has been made The Taxation Enquiry Commission (1953-54) described this system as "unsound in theory and clumsy in practice" This system was adopted on some of the older works in Andhra Pradesh and Madras However, in view of the administrative difficulties involved, this system is being replaced by a system wherein the water charge is fixed on a flat rate basis and varying according to the nature of the crop grown, etc

Under the system of charging an "occupier's rate," water charges are related to the nature of the crop grown and are fixed for the area actually irrigated The rates for different crops are based mainly on the quantity of water normally required by the crop, the scarcity or abundance of supply at the time, and value of the crop Under this system, though the method of charging ensures equity, however, economy in the use of water may not be achieved, since charges depend on the extent of area irrigated and nature of crops grown and there might be wastage of water due to excessive watering Further, the Taxation Enquiry Commission pointed out that "under conditions of competitive demand, it fails to secure optimum revenue to the government" This system of levy is followed generally all over India, especially on the new irrigation works.

Under the "agreement rate" system, rates are fixed by agreement for a certain period of years and water rates have to be compulsorily paid whether water is taken or not In view of the long-term agreements and the compulsory nature of levy, the water charges are generally low This system is the result of local conditions and requirements in certain regions, as in the deltaic regions of Orissa, West Bengal, parts of Bihar and Madhya Pradesh, where climatic conditions render it doubtful whether the cultivator in any particular season would demand water or not In these regions, attempts have been made to induce the cultivator to take a lease for a period of years For instance, in Orissa, the present practice is to give long-term block leases extending up to ten years This system is conceived to bring in a minimum return so that the cost of maintenance of works could be met

Revision of Existing Rates

Irrigation works should be, by and large, self-supporting But, at present, irrigation works are running at a loss In 1950-51, the net profit from irrigation undertakings was Rs. 4 crores In 1955-56, there was a loss of Rs 5 1 crores This loss is estimated to have increased to Rs 19 3 crores at the end of the Second Plan On the basis of recent estimates given by State Governments to the Planning Commission, it is estimated that at the existing level of water rates, the loss to the irrigation undertakings during the Third Plan would be of the order of Rs 135 crores

Thus, there exists a case for revising water rates in all the States in India The case arises primarily owing to the following reasons . firstly, a huge amount has been invested in these undertakings and attempts should be made to prevent recurring losses. Secondly, a substantial part of the funds for the development of irrigation which could have been found from the internal resources of these undertakings will now have to be found from other sources Thirdly, the present incidence of water rates is found to be low. And fourthly, the prevailing higher prices of crops have raised the paying capacity of the farmers.

Recently, water rates have been revised upwards in a number of States and the State Governments are contemplating a further increase in the future In Andhra Pradesh, in 1956, water rates were increased by 25 per cent, and further by 50 per cent in 1957 An additional assessment of 13¾ per cent of the amount of land revenue assessment payable on wet lands was levied in 1956 to meet the increasing cost of maintenance and repair of works This additional assessment was further increased to 37¼ per cent in 1957 In Bihar, water rates were doubled in 1956 In Gujarat region, uniform water rates for all the irrigation works have been introduced step by step, from June 1959 In Uttar Pradesh, the rates were raised by 50 per cent in 1944, by another 50 per cent in 1950 and then again by 50 to 100 per cent in 1953 However, owing to the fall in prices in 1954-55, a rebate equivalent to 50 per cent of the increase effected in 1953 was allowed In Rajasthan, for the projects constructed after 1952, new schedules of rates have been prescribed in 1956 Water rates obtaining on old tanks were increased by about 30 to 40 per cent over the old rates Water rates ranging below Rs 5 have been raised to Rs 8 The State Government is considering a further upward revision. In West Bengal, the rates on the old Damodar canals were raised from Rs 4 1 to Rs 5 5 per acre from 1952-53 New water rates have been introduced from 1958-59 in the irrigable commanded area of the old Damodar and Eden Canal Systems [28]

As noted earlier, the annual income of an irrigation project should cover the annual cost of supplying water In spite of recent upward revisions in the water rates in several States, the losses have tended to increase A recent study[29] on the working of irrigation undertakings in India, touches the various aspects of the problem The present financial losses of irrigation works seem to be due to high construction costs and costs of maintenance and operation With the completion of a project and commencement of irrigation, certain costs, more or less of a fixed nature, on establishment, repairs and maintenance, depreciation and interest charges, have to be incurred annually, whether the water made available is utilised or not utilised The cost of providing water per acre depends on the degree of utilisation of the potential created Thus, the higher the proportion of utilisation, the lower will be the cost of supplying water per acre and *vice versa* The capital cost per irrigated acre of First and Second Plan schemes varies from as low as Rs 189 in Uttar Pradesh, Rs 193 in Bihar, Rs 263 in the Punjab, to as high as Rs 669 in Madras, Rs 731 in Mysore and Rs 836 in Maharashtra Similarly, in 1960-61, the maintenance and operation costs per acre varied from as low as Rs 2 34 in Madras, Rs. 3 18 in Kerala, Rs 3 41 in Andhra Pradesh to as high as Rs 7 98 in Maharashtra, Rs 12 0 in Mysore and Rs 15 06 in Gujarat. The low working cost per irrigated acre in Madras and Andhra Pradesh is due to almost cent per cent utilization of irrigation potential In Gujarat, Mysore and Maharashtra, the working costs are considerably higher owing to the low utilisation at present Similarly, on the side of benefit also, present rates seem to be low The average receipts per irrigated acre as a proportion of the value of net additional output due to irrigation were found to be low in most of the States Thus, excepting for Maharashtra and Mysore, where the corresponding proportion was 17 and 12 per cent respectively, it was as low as 2 per cent in Andhra Pradesh, Bihar, Kerala and Madras, 3 per cent in Orissa, Rajasthan and West Bengal, 4 per cent in Madhya Pradesh, 6 per cent in the Punjab and 9 per cent in Gujarat

---

[28] Price Policy of Irrigation Undertakings A Preliminary Study, Planning Unit, Indian Statistical Institute, New Delhi (1961) (unpublished)

[29] *Ibid.*

Net profits of irrigation undertakings can be increased by increasing water rates or lowering costs or both The above study[30] has suggested several steps to improve the financial position of irrigation works Among other things, it has suggested a compulsory system of irrigation levy for bringing about fuller utilisation of potential created and thereby minimising the cost of providing water per acre. In view of the low incidence of prevailing rates, the study has proposed an upward revision in the existing rates On the basis of the proposed water rates, which have been approximated at 10 per cent of gross value of output for various crops in different States, it is seen that the estimated loss of Rs 135 crores by the end of the Third Plan, could be reduced to Rs 38 crores A further reduction to the extent of Rs 15 crores can be effected through measures such as increasing the efficiency in water use and water conservation

---

[30] Price Policy of Irrigation Undertakings A Preliminary Study, *Op cit.*

Need to Link Water Rates with Other Agricultural Taxes

A question is often posed that there are different groups of farmers in the country who utilise irrigation facilities differently and if these farmers are charged uniform rates, this might lead to disparities in the benefits derived from irrigation It is suggested that this anomaly could be removed in two ways firstly, by levying water rates on a graduated basis by charging lower rates up to a particular size of holding which could cover the large stratum of cultivators at the low level, and by a progressive increase in rates on higher slabs, and the second alternative is to charge a uniform water rate for all the irrigators and tap the higher benefits of cultivators with large-sized holdings through the agricultural income-tax The latter step would necessitate lowering of the present exemption limit for the purposes of agricultural income-tax It is pointed out that the question of water rates is primarily a problem of mobilising the resources of the rural sector and cannot be studied in isolation from the issues of land revenue and agricultural income-tax[31]

Betterment Levy

While the maintenance costs of an irrigation work are expected to be taken care of by water charges, a betterment levy is conceived as a measure of recouping the capital invested and recovering depreciation charges The two major objectives of levying a betterment charge are stated to be, firstly, appropriating a part or the whole of the unearned increment in the value of the land due to the construction of a project, and secondly, to recoup a part or whole of the capital outlay on an irrigation project from the persons benefiting from it, to provide capital resources for extending irrigation to new areas The principle behind the betterment levy is that the introduction of irrigation projects is generally followed by an increase in the annual and capital value of lands coming under the command of a project Such increase in the value of land is not the result of the individual cultivator's effort, but is rather a result of public investment A considerable unearned increment accrues to owners of land within the project area which they would not have enjoyed without the facility of irrigation provided at the expenses of the State While it is a sound principle to tax the unearned increment in land values, such a levy is supposed to fulfil other desired objectives, such as the stabilisation of land values, and provide additional resources to Government to liquidate at least a part of the capital costs of the projects

---

[31] National Council of Applied Economic Research Criteria for Fixation of Water Rates and Selection of Irrigation Projects (1959), p 77

The three main aspects that have to be reckoned with in the determination of betterment levy are (a) fixation of the base value from which the increase in value may be calculated, (b) determination of the increase in value, and (c) determination of the percentage of betterment value that the Government should realise from the beneficiary

On the recommendation of the Planning Commission, legislation has been passed in several States to introduce betterment levy in the areas benefited by works of improvement In Bombay, the Irrigation Act of 1879 was amended in 1950 to provide for the levy of betterment charge and irrigation cess, the former was meant to appropriate part of the increment in the value of lands and the latter primarily to meet the working expenses of the canal In the Punjab, in 1952, Punjab Betterment Charges and Acreage Act was enacted in order to recover betterment charges and acreage rates on lands in any irrigation scheme which has come into operation since August, 1947 In Madras, an Irrigation Act for betterment contribution was passed in 1952 The Act provides for levy of betterment contribution on lands benefited by any irrigation or reclamation work constructed since January 1943. The Lands Special Irrigation Charges Act in Rajasthan seeks to levy betterment fees and acreage rates as well as water cess in respect of all lands included in irrigation schemes

The major difficulty in appraising the betterment levy arises from the fact that there is no uniformity in the scales and methods of the levy among the different States. In some States like Madras, Andhra Pradesh and Mysore, the increase in the value of land is the sole criterion for assessing the betterment levy In other States like the Punjab, Rajasthan and erstwhile Pepsu, while determining the rate of levy, factors such as the type of irrigation, improvement in irrigation and the extent of betterment, are also taken into consideration[32]

The Madras Act provides that the land benefited by the construction, expansion or alteration of any work shall be divided into suitable classes, and the annual increase in the gross produce of each class shall be estimated and valued with reference to the average prices prevailing during the three years immediately preceding the completion of the work. Ten times the annual increase in gross produce shall be deemed to be the increase in the capital value The betterment levy is calculated at half the excess of this increase over the cost of making the land fit for advantageous irrigation A similar procedure has been provided for in the Andhra Act except that twenty-five times the net additional income less the expenses for making the land fit for advantageous cultivation shall be deemed to be the increase in capital value

In most of the States, maximum limits for betterment levy have been specified The general presumption is that the betterment levy should not exceed 50 per cent of the increment in value whatever be the basis for computation of such incremental value While States like Andhra Pradesh and Madras aim at appropriating 50 per cent of the net increased value, on perennial lands commanded by the Bhakra Project the betterment levy comes nearer to one-fourth of the increase in capital value

One feature of some of the Acts in the States is that as an alternative to payment of the levy, provision is made for the surrender of a part of the holding Rebates are provided for if the whole of the levy is paid in a lump sum If paid in instalments, which vary generally from twenty to thirty at the maximum, an interest rate is charged Only in former Hyderabad, the Act did not provide for charging interest

Though legislation to recover a betterment levy has been passed in most of the States, in practice, it is seen that action taken for implementing the laws enacted for the purpose has

---

32 Report of the Taxation Enquiry Commission 1953-54, Vol III, p. 257

been half-hearted and has lagged far behind expectation This feature is borne out by the actual realisations of the levy as against the expectations entertained During the Second Plan, the amount realised was only Rs 3 5 crores as against the initial estimate of Rs 47 crores As regards flood cess, the Governments of Andhra Pradesh, Assam, Bihar, Jammu & Kashmir, Kerala and Mysore have enacted the necessary legislation, while the question is under consideration in Madhya Pradesh, Maharashtra, Gujarat, Punjab, Orissa, Rajasthan, Uttar Pradesh and West Bengal The targets of total receipts from betterment levy set out in the Third Plan is Rs 39 crores and in order to achieve this target, promotion of necessary legislation in the remaining States where legislation is not enacted so far, and enforcement of legislation where it has already been passed, are considered as essential steps The anticipated realisation in the first three years of the Third Plan is only Rs 5 76 crores[33]

The main reason for the lapse in recovering the levy in different States is due to the difficulty in assessing the levy as per the principle of capital appreciation in the value of land. The difficulties arise owing to the conditions obtaining in the prevailing irrigation system Firstly, under the present optional system of irrigation there is neither a compulsion to the land holder to take water nor a permanent commitment on the part of the Government to supply water as desired Secondly, it is not prescribed that a particular land shall grow a particular crop only And thirdly, with the enactment of the Tenancy laws and implementation of other land reforms, the market for land has practically ceased to exist making it difficult to ascertain the market price for land[34] These conditions have rendered the calculation of the levy difficult

The justification for such a levy lies in the need for raising additional resources to finance extension of irrigation in the future In view of the difficulties involved in assessing and recovering the betterment levy, it is suggested that the purpose in view will be served by charging a higher consolidated water rate, instead of levying a separate betterment charge Recently, this question was posed before the State Governments as to whether they should have the present water rates combined with betterment levy, or a single completely revised settlement or a betterment levy-cum-revised settlement This problem was dealt with at length by the Madras State when it received instructions from the Planning Commission regarding betterment levy, in October 1950 A Committee was appointed under the chairmanship of Shri C Subramaniam The Committee recommended the introduction of an element of progression by way of a surcharge adjusted to the ascertained ability to pay, and after proposing an additional surcharge on commercial crops, over and above this charge, the Committee suggested the linking of both the standard assessment and the water rates, whether on protective or productive irrigation works, to the price index of paddy in the Madras State The Maharashtra State Irrigation Commission in its Report to the Maharashtra State in 1962, recommended 'increased productivity' as the only practical basis for levying such a charge, to be levied on all lands irrigated by Government works whether new or old The Commission recommended a consolidated betterment-cum-depreciation charge equivalent to 20 per cent of the water rate, the period of recovery being unlimited According to the Commission, a single consolidated irrigation charge, including both the water rate and the betterment levy may be charged to facilitate the convenience in collection

---

[33] The Third Plan Mid-term Appraisal Planning Commission, Government of India (1963), pp 105-6

[34] Report of the Maharashtra State Irrigation Commission, *Op cit*, p 94

CONCLUSION

In conclusion it may be said that the present losses incurred by the irrigation undertakings can be reduced to a considerable extent with a fuller utilisation of the irrigation potential created and their financial position can be improved by revising upwards the existing irrigation rates wherever they are found to be low The losses can also be further reduced by minimising the working costs of the undertakings. In the final analysis, an irrigation undertaking should be self-supporting and pay its way without burdening the general tax-payer.

CHAPTER XVI

FOREIGN TRADE IN AGRICULTURAL COMMODITIES*

TRENDS IN EXPORTS AND IMPORTS OF AGRICULTURAL COMMODITIES

Foreign trade in agricultural commodities does not have in India the importance it has in some other countries of South-east Asia In fact, the exports of agricultural commodities constitute only 5 per cent of the national income in recent years However, agricultural commodities have considerable importance in the composition both of imports and exports of the country Table I gives the share of agricultural commodities in the total exports of all merchandise by sea and air This table includes a separate item representing the agricultural content of some exported manufactures (cotton textiles, jute goods, woollen manufactures and leather goods) Exports of agricultural commodities, as a percentage of total exports of all merchandise, has fluctuated between the range of 38 and 52 during the last decade The average percentage during the second half of the decade has been distinctly higher than that in the first half It is somewhat remarkable that such a trend should have existed in spite of the considerable diversification of the national economy which has taken place as a result of planned economic development If the figures of the agricultural content of some of the exported manufactured commodities is included, the percentage share of the combined group rises above 60. This is a sure indication of the importance of agricultural production in the national economy

Information regarding the share of agricultural commodities in the total imports is given in Table II There is a distinct trend showing the decline in the share of agricultural commodities in total imports During the last few years, agricultural imports have constituted nearly one-third of the total imports,

---

* This chapter is largely based on Professor M L Dantwala's Paper entitled "Economic Development and the Role of Agricultural Sector in India," submitted to the ECAFE in 1964

TABLE I

SHARE OF AGRICULTURAL COMMODITIES IN TOTAL EXPORTS OF ALL MERCHANDISE BY SEA AND AIR

(Rs in crores)

	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61
A Agricultural commodities excluding agricultural content of exported manufactures	192 3	248 6	266 9	241 0	217 9	300 8	305 2	295 6	256 9	279 2	303 7	284 5
B Agricultural content of exported manufactures*	88 4	107 1	152 7	103 9	100 7	105 0	100 5	106 2	100 7	95 8	110 1	116 3
C All agricultural products (A+B)	280 7	355 7	419 7	344 9	318 5	405 7	405 7	401 8	357 6	375 0	413 8	400 8
D Total export of all merchandise	472 1	578 3	701 8	553 5	518 7	582 7	584 7	593 9	610 7	566 4	629 9	632 9
E (i) A as percentage of D	41	43	38	43	42	52	52	50	42	49	48	45
(ii) B as percentage of D	19	18	22	19	19	18	17	18	16	17	18	18
(iii) C as percentage of D	59	61	60	62	61	70	69	68	59	66	66	63
F Full f o b value of exported manufactures included in B	225 9	281 8	360 1	222 1	215 6	216 1	208 9	202 6	214 3	203 8	234 2	247 4
G F as percentage of D	48	49	51	40	42	37	36	34	35	36	37	39

Source J B Bhattacharjee (Ed) Studies in Indian Agricultural Economics (Revised Edition in Press), Indian Society of Agricultural Economics, Chapter II, 'Prices, Trade and Marketing of Agricultural Commodities,' Directorate of Economics & Statistics, Ministry of Food and Agriculture, Government of India

* Items included are cotton textiles, jute goods, woollen manufactures and leather goods only Adjustments have been made in their total f o b value to exclude the element of processing of their agricultural content and of the imported raw materials contained in them

Note Figures have been compiled and computed from *Accounts Relating to Foreign Trade of India* (monthly), Director-General of Commercial Intelligence and Statistics, Government of India, Calcutta

Data on foreign trade in agricultural commodities for the years subsequent to 1956-57 are not strictly comparable with those for earlier years because of the changes in classification of commodities adopted in 1957 However, special care has been taken to see that the coverage of items remains the same and as such figures for latter years compare well

TABLE II

SHARE OF AGRICULTURAL COMMODITIES IN TOTAL IMPORTS

(Rs in crores)

Year	Value of Imports of			Share of agricultural goods in total imports (2 as % of 4)
	Agricultural goods	Non-agricultural products	Total merchandise	
1	2	3	4	5
1948-49	302 2	341 7	643 9	46 9
1949-50	225 7	422 3	648 0	34 8
1950-51	285 2	338 1	623 3	45 8
1951-52	521 1	422 0	943 1	55 3
1952-53	284 4	385 5	669 9	42 5
1953-54	186 9	385 0	571 9	32 7
1954-55	229 2	427 0	656 2	34 9
1955-56	160 3	518 4	678 7	23 6
1956-57	168 6	671 8	840 4	20 1
1957-58	200 7	786 6	987 3	20 3
1958-59	277 5	584 5	862 0	32 2
1959-60	296 4	664 4	960 8	30 8
1960-61	335 6	734 6	1,070 2	31 4

Note See footnote to Table I

Source *Accounts Relating to Foreign Trade of India*, Ministry of Commerce and Industries, Government of India, New Delhi Reproduced from Studies in Indian Agricultural Economics, *Op cit*

indicating the increasing importance of the imports of non-agricultural commodities, particularly machinery in India's national economy The analysis of the trends in exports and imports of agricultural commodities suggests that India is in a stage in which the structure of her production is gradually changing but it has not yet reached the stage in which the benefits of industrialisation manifest themselves through the diversification of the export trade

Balance of Trade

If the balance of trade is struck for agricultural commodities only, the outcome appears to vary from year to year and there is no distinct trend (Table III) The negative balance has been as high as Rs 254 2 crores in 1951-52 and the positive balance is as high as Rs 144 9 crores in 1955-56 After two years of a small positive balance in 1958-59 and 1959-60, the year 1960-61 witnessed again a negative balance of Rs 51 1 crores The fluctuating position of the trade balance in agricultural commodities is undoubtedly related to the harvest conditions in particular years

TABLE III

AGRICULTURAL EXPORTS AND IMPORTS

(Rs in crores)

Year	Exports	Imports	Balance (Exports – Imports)
1950-51	248 6	285 2	— 36 6
1951-52	266 9	521 1	—254 2
1952-53	241 0	284 4	— 43 4
1953-54	217 9	186 9	+ 31 0
1954-55	300 8	229 2	+ 71 6
1955-56	305 2	160 3	+144 9
1956-57	295 6	168 6	+127 0
1957-58	256 9	200 7	+ 56 2
1958-59	279 2	277 5	+ 1 7
1959-60	303 7	296 4	+ 7 3
1960-61	284 5	335 6	— 51 1

Domestic Production and Imports

Table IV gives information regarding the domestic production and imports of cereals, production of wheat and domestic production of cotton along with its imports and exports from 1950-51 to 1960-61.

It will be observed from the table that the percentage of imports of cereals to domestic production has varied considerably

TABLE IV
DOMESTIC PRODUCTION AND IMPORTS (AND EXPORTS) OF SOME IMPORTANT AGRICULTURAL COMMODITIES

	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
				Cereals (in million tons)								
Domestic production	43.72	44.29	49.47	58.27	56.18	54.92	57.38	53.88	63.16	63.19	67.24	67.09
Imports	4.73	3.86	2.00	0.83	0.70	1.42	3.59	3.17	3.81	5.06	3.44	3.58
Percentage of imports to domestic production	10.82	8.72	4.04	1.42	1.25	2.59	6.26	5.88	6.03	8.01	5.12	5.34
				Wheat (in million tons)								
Domestic production	6.64	6.17	7.40	7.89	8.90	8.62	9.25	7.87	9.80	10.09	10.82	11.62
Imports	3.02	2.51	1.68	0.20	0.44	1.10	2.85	2.67	3.50	4.32	3.04	3.20
Percentage of imports to domestic production	45.48	40.68	22.70	2.53	4.94	12.76	30.81	33.93	35.71	42.81	28.10	27.54
			Cotton (in million bales of 392 lbs each)									
Domestic production	2.91	3.13	3.19	3.94	4.25	4.00	4.71	4.74	4.69	3.68	5.39	—
Imports	1.26	1.22	0.79	0.67	0.69	0.67	0.75	0.41	0.54	1.15	1.90	—
Exports	0.08	0.13	0.41	0.20	0.17	0.69	0.23	0.41	0.33	0.19	0.30	—
Net imports	1.18	1.09	0.38	0.47	0.52	0.02	0.52	0.00	0.21	0.96	1.60	—
Percentage of net imports to domestic production	40.55	34.82	11.91	11.93	12.24	—	11.04	—	4.48	26.09	29.68	—

Sources Bulletin on Food Statistics, Ministry of Food and Agriculture, Government of India (1963), Cotton in India (Annual Series) Indian Central Cotton Committee from year to year It was as high as 10 82 per cent in 1950-51 and 8 72 per cent during 1951-52 In the years 1953-54 to 1955-56, when domestic production achieved a marked increase the percentage of imports was distinctly lower Since 1956-57, however, imports of cereals have consistently remained over 3 million tons per year During the five years ending 1960-61, the percentage of cereal imports to domestic production has varied between 5 - 8 per cent Though in percentage terms this may not appear to be very high, these imports have imposed a large burden on the limited foreign exchange resources of the country at a time when there was a severe strain on it The annual average value of the foodgrain imports has been as high as Rs 150 crores, during the five years ending 1960-61 It may, however, be mentioned that the bulk of these imports have been under the PL 480 Programme on a loan basis with payments in Indian currency

As is well known, wheat constitutes the major component of the foodgrain imports The percentage of wheat imports to domestic production has also varied considerably from year to year, but the percentage has remained consistently very high during the last five years, varying from 28 10 per cent in 1960-61 to 42 81 per cent in 1959-60 It is thus obvious that India has come to depend on imports for nearly one-third of its consumption of wheat and this is tending to become almost a built-in feature of India's wheat economy The high level of imports corroborates the earlier evidence regarding the slow or negligible increase in the production of wheat during the last five years There is, therefore, definite evidence that wheat production suffers from certain discouragement or lack of incentive The relatively low price of wheat may be one such cause of discouragement

In regard to cotton, India imports as well as exports this commodity, but whereas the imports consist of medium and long-staple cotton, the exports are mainly of the short-staple variety The figures in the table which are given in terms of number of bales may not, therefore, reflect the relative value of exports and imports The percentage of imports to domestic production of cotton has been worked out on the basis of net figures, (*i e*, imports minus exports) which is perhaps not quite appropriate in view of the marked difference in the qualities of cotton which is exported and imported Bearing this limitation in mind, the percentage figures of net imports to domestic production once again show wide variation from year to year Variations are primarily due to the variations in domestic production The percentage of imports to domestic production was very high during 1950-51 and 1951-52 This rate came down in 1954-55 and in 1955-56 there were no net imports of raw cotton Since then, the imports have been at a fairly low level except in the year 1959-60 when the percentage rose to 20 65 because of the extremely poor domestic production during that year Like the imports of foodgrains, imports of cotton also constitute a severe burden on India's limited foreign exchange resources The value of the imports during the last five years has varied from Rs 31 crores to Rs 75 crores

The analysis of imports for two major categories of agricultural produce, namely, cereals and cotton, shows that the increase in domestic production has not been able to keep pace with the increased domestic requirements With a better performance in the production of these two commodities, the national economy would have benefited considerably, particularly in regard to savings in foreign exchange which was badly needed for industrial development

COMPOSITION OF EXPORTS AND IMPORTS

The percentage shares of important commodities in agricultural exports and imports are given in Tables V and VI Commodity-wise, the most important export commodity is tea and in recent years, in some measure coffee The share of tea in the total agricultural exports in recent years has varied from 42 5 to 49 8 per cent The importance of tea in India's exports has increased inasmuch as in the earlier part of the decade, its percentage share was consistently below 40 In the case of both tea and coffee, it cannot be assumed that a larger production would have necessarily resulted in larger exports as the latter would depend on the conditions in international markets Next in importance is raw cotton whose share in the exports of agricultural commodities has varied between 4 to 7 7 per cent during recent years Unlike tea, the importance of raw cotton exports

TABLE V

PERCENTAGE SHARE OF INDIVIDUAL COMMODITIES AND GROUPS IN THE TOTAL AGRICULTURAL EXPORTS

	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61
Tea	35.3	39.0	35.8	51.1	55.1	38.9	49.8	43.8	46.9	42.5	43.4
Coffee	0.5	0.2	0.6	0.7	2.8	2.5	2.3	2.7	2.8	2.1	2.5
Cotton (Raw)	7.6	8.7	12.9	9.6	7.5	14.1	7.0	6.1	7.7	4.8	4.1
Seeds including oilseeds	7.6	3.3	2.1	1.1	1.5	1.4	0.3	—	0.7	0.8	1.8
Oilcakes	—	—	—	—	0.5	1.8	0.6	1.2	3.6	6.9	5.0
Tobacco	6.7	7.0	6.1	6.0	4.8	4.2	4.9	6.5	5.4	4.8	5.5
Vegetable Oils	10.2	8.6	10.7	2.4	3.7	12.2	5.4	4.1	2.3	4.9	3.0
Spices	11.0	11.6	9.3	8.4	4.3	3.7	3.1	3.0	2.9	4.8	5.8
Fruits and Vegetables	4.8	5.6	7.3	6.9	4.9	5.4	6.2	7.5	7.8	7.1	9.2
Others	16.3	16.0	15.2	13.8	14.9	15.8	20.4	25.1	19.9	21.3	19.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE VI

PERCENTAGE DISTRIBUTION OF THE AGRICULTURAL IMPORTS AMONG DIFFERENT COMMODITIES OR GROUPS

	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61
Foodgrains	38 0	49 4	54 8	35 7	29 1	10 1	4 8	29 4	58 0	50 4	43 2
Cotton (Raw and Waste)	35 3	26 3	27 0	28 2	25 5	35 8	30 6	20 3	10 2	13 9	24 4
Jute (Raw)	9 5	12 9	5 8	7 7	5 7	12 1	5 2	3 4	1 0	1 2	2 3
Others	17 2	11 4	12 4	28 4	39 7	42 0	59 4	46 9	30 8	34 5	30 1
Total	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0

has declined Another commodity which has shared this fate is oilseeds Its share in the total agricultural exports which was as high as 7 5 per cent during 1949-50 and 1950-51, has declined to about 1 per cent The relatively very high level of prices of oilseeds during the decade shows that the production of this commodity has not been commensurate even with domestic requirements, leaving aside its export potential In regard to sugar, India was a net importer till the year 1955 Of late, however, she has started exports of limited quantities which are earning some valuable foreign exchange This has been possible because of the marked increase in the production of sugarcane and upsurge in international demand

The commodity composition of agricultural imports also reveals dominance of a single commodity, *viz*, foodgrains Its percentage share in the total imports during the last three years has varied from 43-58 per cent Once again, raw cotton occupies the second most important place in the imports of agricultural commodities. Other important agricultural commodities imported into India are dairy products, eggs and honey, fruits and vegetables, oilseeds, oil nuts and oil kernels, crude rubber and wool The total imports of these commodities were valued at Rs 56 41 crores Imports of agricultural machinery and fertilizers into India during 1961 have increased by nearly 100 per cent from Rs. 10 38 crores in 1957 to Rs 19 21 crores in 1961 [1] This is indicative of the rising tempo of development programmes in agriculture.

DIRECTION OF FOREIGN TRADE

A statistical study of the operational dimensions of India's agricultural exports made by the Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India,[2] attempted to measure the changes in the external demand for India's agricultural exports, which included not only agricultural raw materials but manufactures with a large agricultural content like jute goods The share of different countries in the export trade in agricultural commodities during 1950-51, 1955-56 and 1958-59 as revealed by this study is shown in Table VII.

---

[1] Economic Survey of Indian Agriculture 1960-61, Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India (1962), p 68

[2] "Operational Dimensions of India's Agricultural Exports—I," K S Rao, *Agricultural Situation in India,* Vol XVI, No 10, January 1962, p 993

It will be seen that two-thirds of the exports were accounted by 14 countries in 1950-51 By 1955-56, the same percentage was accounted by 11 countries and by 1958-59, by 10 countries India's export trade is thus getting confined to fewer and fewer countries This increasing concentration has resulted in India's exports fluctuating with variations in the economic activity and policies of these countries The combined share of the United Kingdom and United States of America was 43-44 per cent of India's exports It may be noted that between 1950-51 and 1955-56, the share of U S A has decreased and correspondingly the share of U K has increased There is of late a reverse tendency Both these countries together with Australia accounted for nearly 50 per cent of India's exports By 1955-56, the third place was taken by Japan and the share of Australia has declined by about 30 per cent of its original level[3] Exports to Japan trebled during the period The share of Commonwealth countries other than U K has tended to decline

In the import trade, the commodities which account for the bulk of agricultural imports are rice, wheat, cotton and jute The main source of supply of rice is Burma In 1958, India imported 383 thousand tons of rice from Burma out of a total import of 390 thousand tons By 1961, the share of Burma in the import trade had declined to 42 per cent and the share of U S A increased to 50 per cent Wheat is imported mainly from the U S A, Australia and Canada Of the total imports of 3 04 million tons in 1961, the U S A supplied 2 08 million tons (68 6 per cent) under PL 480 agreement In addition to this, another quantity of 4 10 lakh tons of wheat was imported from the U S A against a wheat-manganese barter deal Imports of wheat from Australia and Canada amounted to 390 thousand tons (12 8 per cent) and 156 thousand tons (5 1 per cent) respectively

Average annual imports of raw cotton are estimated at about 6 to 7 lakh bales. The quantity of raw cotton actually im-

---

[3] K S Rao, *Op cit*

TABLE VII

SHARE OF DIFFERENT COUNTRIES IN INDIA'S EXPORT TRADE IN AGRICULTURAL COMMODITIES

1950-51*			1955-56*			1958-59*		
Serial No	Country	Percentage share	Serial No.	Country	Percentage share	Serial No	Country	Percentage share
1	U K	25 0	1	U K	29 0	1	U K	26 8
2	U S A	18 3	2	U S A	14 7	2	U S A	16 9
3.	Australia	5 9	3	Japan	4 0	3	Japan	4 7
4	Ceylon	3 0	4	Australia	3 9	4	U S S R	3 8
5.	Canada	2 3	5	Ceylon	3 2	5	Australia	3 4
6	Burma	2 1	6	Canada	2 5	6	Ceylon	3 1
7	West Germany	1 5	7	West Germany	2 5	7	West Germany	2 7
8	Netherlands	1 4	8	Burma	2 2	8	Canada	2 3
9	Italy	1 4	9	Netherlands	2 2	9	Burma	1 8
10	Belgium	1 4	10	Egypt	1 5	10	Egypt	1 5
11	Japan	1 4	11	Italy	1 2	11.	France	1 4
12	France	1 2	12	Belgium	1 2	12	Netherlands	1 3
13	Egypt	1 1	13	France	1 1	13	Italy	1 0
14	U S R R	0 7	14	U S S R	1 0	14	Belgium	0 9
15	Other countries	33 3	15	Other countries	29 8	15	Other countries	28 4

Source "Operational Dimensions of India's Agricultural Exports—I," K S *Rao Op cit*

* To remove the effect of variation in agricultural exports consequent on variations in the level of agricultural production, a three-year average is taken for 1949-52, 1954-57 and 1957-60 and noted against the mid-year in each case

ported during 1961 was valued at Rs. 69.32 crores against Rs. 30.66 crores in 1958. Thus the level of raw cotton imports during 1961 was higher than the level of 1958 by more than 100 per cent. Imports are almost entirely from the U.S.A., Egypt, Kenya, Sudan and Tanganyika. As regards raw jute, the quantity imported into India during 1961 was 4.49 lakh bales valued at Rs. 7.18 crores.[4] It is imported only from Pakistan.

OBSTACLES TO AGRICULTURAL EXPORTS

Although efforts are being made to diversify production and exports, the country continues to depend for the bulk of its export earning on a few traditional export commodities. Tea alone had accounted for more than one-fifth of total export receipts during the Second Five-Year Plan. Tea, jute manufactures and cotton textiles, when taken together, accounted for almost 50 per cent of the total.[5] About two-thirds of India's export trade has been faced with obstacles in importing countries. The imposition of quantitative restrictions, high tariffs, high revenue duties, State monopolies, discriminatory preferential tariff arrangements, subsidies, etc., by importing countries has limited the possibilities open to India for substantially increasing its foreign exchange earnings. Though exports of commodities like gums, resins and lac, raw hides and skins, raw cotton and waste, raw wool and hair, spices, cashew nuts, etc., are, on the whole, not significantly affected by tariff and non-tariff measures, some of these products are affected by the use of substitutes. Import substitution of these commodities has the effect, at any rate, of limiting the growth of the market.

Tariff and licensing policies which continue to be in force in many industrialised countries provided more favourable import treatment for raw materials than for processed goods and are a factor in retarding the development of processing industries in less-developed countries like India.[6] Examples of products which suffered from this differentiation in import treatment and of export interest to India are vegetable oils, leather goods and footwear, woollen manufactures and rugs and carpets In the case of fruit and vegetable products, tobacco, fish and fish products, many important export markets are subject to restrictions imposed in connection with the implementation of the various aims of national agricultural and fisheries policies Moreover, such commodities as tobacco, for which State trading and monopoly procurement exist in a number of countries, are handicapped by purchasing policies which often do not take full account of commercial considerations In these circumstances, it has been found difficult to obtain a share in some of the markets in Western Europe Relaxation and removal of these barriers would help to expand India's several industries and would lead to the channelling of investment into directions of expanding existing industries or developing new industries with a view to securing efficient allocation of resources and the maximum expansion of trade An improvement in the production of some of the key agricultural commodities like cereals, cotton and tea would make a substantial contribution in relieving the strain of the adverse balance of trade which the country has been experiencing in the process of its economic development

---

[4] Economic Survey of Indian Agriculture 1960-61, *Op. cit.*, pp. 66-68.

[5] GATT Programme for Expansion of International Trade—Trade of Less-Developed Countries, Special Report of Committee III—Development Plans. Study of the Third Five-Year Plan of India, Contracting Parties to the General Agreement on Tariffs and Trade (1962), pp. 45-51.

[6] *Vide* Trade in Agricultural Commodities in the United Nations Development Decade, Vol. I. Parts I, II, III, Food and Agriculture Organization of the United Nations (1964), Part I, pp. 48-57.

CHAPTER XVII

AGRICULTURAL LABOUR AND RURAL EMPLOYMENT

In this chapter it is proposed to discuss problems of rural employment in the overall framework of the surplus population in agriculture It is convenient to divide the subject into four parts In the first section, the question how the surplus population emerged in the agricultural sector is discussed, with some reference to the historical experience of European countries The problem of agricultural labourers is taken up for discussion in the second section The various measures devised in the Five-Year Plans to relieve rural unemployment and under-employment are reviewed in section three In the last section the concept of the surplus labour constituting savings potential has been briefly analysed

SURPLUS POPULATION

Concept and Emergence

The problem of surplus population on the land and the consequential increase in rural unemployment and under-employment in India has been stressed by several competent authorities since the report of the Famine Commission of 1880 The problem has been accentuated by the faster rate at which the population has been growing in recent decades In an earlier chapter, reference has been made to the increasing pressure of population on land since 1921[1] During the course of the 50 years, from 1901 to 1951, the total working force increased by about 25 million from 117 to 142 million The working force in agriculture increased by an almost identical size from 73 to 98 million, while the working force in non-agricultural occupations stood at about the same figure as at the beginning of the century This means that the increase in the non-agricultural employment in urban areas has been off-set in almost equal degree by the decrease in such employment in rural areas Thus the general trend until very recently appears to have been in the direction of increasing dependence on agriculture Disintegration of the traditional economic basis of rural life resulted in the disappearance of certain traditional non-agricultural occupations This fact as also the decline of the indigenous industries consequent on technological development in certain industries, also drove the people back to the land This pressure of population both from within and without agriculture, resulted ultimately in an increasing dependence on agriculture In the absence of any alternative means of livelihood people were forced to eke out a living, however meagre it might be, from agriculture That is how agriculture came to shelter a large surplus of labour A number of estimates have been made regarding the size of the surplus labour in agriculture, but the definition and the methodology adopted vary a great deal On the whole, there appears to be an agreement on the broad conclusion that, under existing conditions, if cultivating units were to approach the size of "a family holding" offering full time employment to an average family, agricultural production could be maintained with about 65 to 75 per cent of the number of workers now engaged in it That is to say, on certain assumptions, about one-fourth to one-third of the existing labour force in agriculture might be regarded as surplus to its requirements. The point in making this statement is merely to indicate the enormous size of the surplus labour now sheltered by agriculture and not so much to offer any precise estimate of the surplus

---

[1] See Chapter II on Population

European Experience

The problem of surplus population in agriculture is not peculiar to the Indian situation, in fact the problem arose at certain stages in the economic history of most European countries During the nineteenth century, population in Europe grew rapidly and, apart from large scale emigration, means had to be found for absorbing the surplus labour in productive occupations The problem was sought to be solved along four main lines: (1) by raising the level of production from land through intensive cultivation, (2) assisting large scale industrialisation with a view to absorbing the rural surplus, (3) land reclamation and redistribution of large estates, and (4) other measures such as consolidation of holdings, spread of the co-operative movement, and encouragement to rural industries Considerable information on this subject is available in the series of monographs prepared for the European Conference on Rural Life (1939) and published by the League of the Nations Although India could, to some extent, draw upon this experience it must be emphasised that in several respects the conditions in India at the present stage are different from those which then prevailed in Europe Firstly, there are very few large estates which could be distributed among the smaller farmers Secondly, the scope for land reclamation and bringing in of fresh areas under cultivation is seriously limited. Thirdly, the problem is rendered more complex because of the rigidity of the social customs, on the one hand, and the rising expectations, on the other, associated with the spread of democratic ideas One broad conclusion which could be drawn, however, is that efforts to increase agricultural productivity and to raise rural incomes must be synchronized with the wider programmes for increasing the tempo of development in the rest of the economy

Changes in Occupational Structure

Before the advent of the industrial revolution, most countries had an occupational structure similar to that in India at the present time For instance, agriculture and allied activities claimed 46 per cent of the working population in Great Britain in 1811, 63 per cent in France (1827), 42 per cent in Germany (1882), 85 per cent in Japan (1872), 81 per cent in Russia (1926) The relevant data are reproduced in the Table I

These data clearly bring out the fact that the process of industrial development altered their occupational pattern substantially By the turn of the nineteenth century, in Great Britain, France and Germany the bulk of the labour force was shifted to the non-agricultural sector Over a period of 40 years of rapid economic growth, the percentage of working force in agriculture declined by 23 points in Japan A similar decline also occurred in Russia during inter-war years

TABLE I

PERCENTAGE OF WORKING POPULATION IN DIFFERENT INDUSTRIES

	Great Britain		France		Germany		Japan		U S S R	
	1811	1901	1827	1901	1882	1907	1872	1912	1926	1939
1 Agriculture, Forestry, Fisheries etc	46*	9	63	33	42	29	85	62	81	58
2 Mining, Manufacturing and Building	N A	47	N A	42	39	45	5	18	6	17
3 Trade and Services	N A	44	N A	25	19	26	10	20	13	25

Source Colin Clark Conditions of Economic Progress (1951), Second Edition, Chapter IX

* Includes 'mining' By 1811, industrial revolution in Great Britain had already got under way, but there is evidence to believe that the proportion of labour force in the primary sector in 1688 was not very different (*Vide* Colin Clark *Ibid*, p 407)

N A =Not available

In other words, in more developed economies only a small proportion of the labour force is engaged in agriculture, and yet it is able to supply a significant proportion of the food and raw materials required It is no doubt true that some of these countries have been able to sustain this type of occupational pattern by availing themselves of the advantages of international trade which makes it possible for them to obtain the food and raw materials by selling abroad the products of their industries It should be noted, however, that a country like the United States with hardly 12 per cent of its labour force devoted to agriculture, is able to produce food sufficient not only for its domestic requirements but also to provide a large quantity for export The point that needs to be driven home is that if a country has to use about 70 per cent of its total population for producing the bare essentials of existence, it cannot secure, by utilising the balance of its labour force, the variety of goods and services necessary for a high standard of living What is necessary, therefore, is to secure a larger output from agriculture with a relatively smaller proportion of the population working on the land Obviously, this requires a larger availability of capital, improvement in tools and implements and also technological improvement involving the adoption of new methods of farming and land management

Changes in the occupational structure necessarily take a long time to manifest themselves Naturally, therefore, it will take several decades for the occupational pattern in India to become more balanced The present occupational distribution of the labour force can be seen from the data presented in Table II

TABLE II

CLASSIFICATION OF WORKERS, 1962 — ALL-INDIA

Classes of workers (1)	Total workers (in millions) (2)	Percentage to total (3)
Cultivators	99 5	52 8
Agricultural Labourers	31 5	16 7
Livestock, Forestry, Fishing, Hunting and Plantations, Orchards and Allied Activities	4 3	2 3
Total Agricultural Classes	135 3	71 8
Mining and Quarrying	0 9	0 5
Household industry	12 0	6 4
Manufacturing other than Household Industry	8 0	4 2
Construction	2 1	1 1
Trade and Commerce	7 6	4 0
Transport, Storage and Communications	3 0	1 6
In Other Services	19 5	10 4
Total Workers	188 4	100 0

Source Census of India, Paper No 1 of 1962, 1961 Census — Final Population Totals, Government of India (1962)

It is quite clear that over 70 per cent of the labour force continues to be employed in agriculture despite a decade of planned industrial development. Since a very high proportion of the population is dependent on agriculture, it is not easy to expand the non-agricultural sector fast enough to cope up with the increases in population and also to reduce existing surplus labour in agriculture. Some idea of the dimensions of the efforts needed to reduce the proportion of labour engaged in agriculture could be had from the following one or two examples. The distribution of labour force between the agricultural sector and the non-agricultural sector at present is 70:30. The rate of increase in the labour force may be assumed to be about 1.5 per cent per annum. If the aim is to prevent any increase in the absolute numbers subsisting on agriculture, non-agricultural employment would have to expand at the rate of about 5 per cent per annum (1.5 × 100/30). Obviously this is a very fast rate and perhaps may not be achieved at least in the short run. Thus it is not unlikely that a large proportion of the new entrants to the labour force may have to be accommodated in agriculture itself.

To bring out the long-term implications, another example may be given. According to the population projections the total population in 1976 is expected to be 625 million. Assuming that the aim is to have a more balanced industrial distribution of the working force in India (with 60 per cent of the workers engaged in the agricultural sector, about 20 per cent working in industries and mining and some 20 per cent in the tertiary sector) and that the proportion of the working force to the total population in 1976 will remain the same as in 1961 (0.43), workers in agriculture will number 161.25 million and those in the other two sectors 53.75 million each. That would require the creation of nearly 50 million additional jobs in the non-agricultural sector over the next 15 years or nearly 3.3 million per year. Within the non-agricultural sector, employment in industries and mining would need to expand at a much faster rate (nearly 2.2 million jobs per year) than that in the tertiary sector (nearly 1.4 million jobs per year).

The magnitude of the task involved in bringing about the more balanced employment pattern visualized above becomes clear when it is recalled that during the entire Second Plan period, it was possible to create about 6.5 million employment opportunities outside agriculture and the Third Plan target for such employment opportunities is placed at 10 5 million or fractionally higher than 2 million per year These calculations are meant to be only illustrative but they do bring out quite clearly how large the expansion of employment opportunities in sectors other than agriculture has to be in order that the surplus manpower on the land is siphoned off

AGRICULTURAL LABOUR

One direct result of this relentless pressure of population on land was the emergence in the rural society of a section of population which came to be dependent entirely on wage-paid labour as a means of livelihood

Historical Background

There was no distinct class of agricultural labour, before the 19th century as the traditional agrarian society was founded on an integrated unity of agriculture and handicrafts The exchange operations of the agricultural producers and the consumers in the rural areas who constituted all the non-agricultural class occupied in industrial pursuits were regulated by certain conventions[2] Sir George Campbell referred to the fact that "as a rule, farming is not carried on by hired labour"[3] Romesh Chandra Dutt observed that "in 1842 Sir Thomas Munroe as Census Commissioner reported that there were no landless peasants in India" (an undoubtedly incorrect picture but indicating that the numbers were not considered to require statistical measurement)[4] The absence of a large class of agricultural labourers up to the end of 19th century is also revealed by certain regional studies of India The Punjab Census of 1868 noticed that agricultural labourers and all herdsmen numbered only 231,500 or less than 3 per cent of a total agricultural population of about

---

[2] Unfortunately, there is no precise information on the extent of agricultural labour hired for the purposes of farming In the present economy, the class of agricultural labourers derived its main livelihood from wages, either in kind or cash working on the lands of others From a study of the economic conditions in pre-British India, it can be safely concluded that agricultural labourers did not constitute an element of the agrarian society

[3] Sir George Campbell Modern India (1852), p 65

[4] R C Dutt India Today (1947), p 198

9,256,000[5] The study of Faridpur district of East Bengal undertaken by J C Jack in the first decade of the 20th century also confirmed the same fact He observed that "it is probable that among all those cultivators there were none who were exclusively agricultural labourers, that is to say, labourers in the English sense of the term The landless labourer so common in England is unknown in Faridpur and very rare anywhere in Eastern Punjab "[6] Similarly, "the existence of a large landless proletariat with no security of tenure as tenants or as farm labourers on others' land was not a big problem in the past in South India "[7] The report of the Census for Madras showed that in 1871, 13 per cent of the male population was enumerated as labourers and probably more than three-fourth of these found employment in connection with land[8] There is no reference in any of the authoritative writings on Indian village communities up to the middle of 19th century to agricultural labour as constituting the sole occupation for any sizable group of the population[9] From these early accounts, it is clear that the problem of agricultural labour was a phenomenon of the period of the British rule in India.

With an increase of population, the growing pressure on the available cultivable land resources combined with the growing indebtedness of the agricultural classes due to the facility of transfers in land provided by the agrarian reforms, the emergence of a class of landless labourers was clearly noticed There was a speedy growth in this "floating" population from 18 7 million in 1891 to 33 million in 1931 Between 1911 and 1931, the number of labourers per one thousand cultivators rose from 247 to 519 in the country[10] In any case, the change in ratio is somewhat remarkable, even when adopting the lowest ratio which can be compared with that of 1911 Possibly the explanation is that a large increase has taken place in the agricultural population without a corresponding increase in actual holders of land whether as tenants or owners though it is likely that a concentration of land in the hands of non-cultivating owners was also taking place[11] The proportion was even higher as it varied with the size of the displaced population from the traditional occupations Between 1941 and 1951, the proportion varied from 519 to 225

---

[5] Census of Punjab, 1868, Table No 4

[6] J C Jack The Economic Life of the Bengal Districts (1916), p 84

[7] P J Thomas and K C Ramakrishnan Some South Indian Villages —A Resurvey (1940), p 347

[8] Census of Madras, 1871, p 117

[9] *Vide* Radhakumud Mukerji Local Government in Ancient India also the History of Village Communities in Western India, Bombay University Economic Series No 4, and Dr John Mathai Village Communities in India

[10] The Census reports for 1911 and 1931 give the proportion as 254 and 407 respectively The disparity might be due to an error in calculation

The broad conclusion is, therefore, quite clear Even as late as the closing decades of the 19th century when this class of agricultural labourers had just started to grow, it formed hardly 10 per cent of the total rural population In the 50 years that followed the process of its growth was accentuated so rapidly that by 1951 agricultural labourers formed more than 30 per cent of the total rural population The process of transformation of the rural class structure implicit in this situation can be visualized somewhat as follows the peasant proprietor with a sizable holding has been shrinking to the position of a petty cultivator owning a small holding His holding is gradually declining further, bringing him down the ladder as a tenant, a share-cropper, an agricultural labourer with a small fragment of land and finally, the landless labourer

Agricultural Labour Enquiry 1950-51[12] and 1956-57

On account of the seriousness of the problem arising out of a striking increase in the agricultural labour population, the economic conditions of this section of the population came in for a specific enquiry by the Government The Agricultural Labour Enquiry conducted during the year 1950-51 enumerated nearly 17 6 million families out of a total number of 58 million rural families as agricultural labourers Thus, about 30 per cent of all rural families were agricultural labourers, while half of these were without land, the other half were in possession of some land Again, 90 per cent of agricultural labourers were casual and 10 per cent attached

---

[11] Census of India, 1931, Vol I, Part 1—Report, p 288

[12] For a brief summary of results of the first enquiry see Agricultural Labour—How They Work and Live, B Ramamurthy, Government of India (1954)

The size of the problem of agricultural labour varies from region to region, depending upon such factors as pressure of population, availability of land for cultivation, differences in the extent of irrigation and double cropping, fertility of land, cropping patterns and opportunities available for seasonal migration The broad features of the distribution of agricultural labour are discernible from the results of the enquiry The proportion of the agricultural labour was highest in South India being 50 per cent and lowest in North-West India, being 10 per cent of the total number of rural families However the percentage was quite low in the North being 14 and relatively high in Eastern and Central Zones, with 33 and 37 respectively Of the total number of 17 6 million labour families, the largest number *i e*, 6 2 million was located in the Southern Zone of which 5 million were in the State of Madras alone East India ranked next with 5 million families of which 50 per cent were concentrated in Bihar In the Central Zone there were nearly 3 million families and in the North and West India between one and two million These figures are indicative of not only the magnitude of the problem in the different regions but also the factors which have intensified the problem in certain areas

The Second Agricultural Labour Enquiry[13] was conducted in 1956-57 with a view to obtaining a comparative picture of the conditions of agricultural labourers in the country as between 1950-51 and 1956-57 It was hoped that such an investigation would bring out the impact of the First Five-Year Plan on the economic conditions of agricultural labour Because of the improvements introduced in the concepts, definitions and measurements, however, the results of the two enquiries are not strictly comparable Hence, we give below only the important results of the second enquiry Out of 66 million rural families in 1956-57, the number of agricultural labour families was estimated at 16 3 million Fifty-seven per cent of agricultural labour families were without any land About 73 per cent of agricultural labourers were casual and 27 per cent were attached The regional distribution of agricultural labour families reveals that the percentage of agricultural labour was the lowest in North India, being 7 5 per cent and highest in South India, being about 34 per cent of the total number of rural families Of the total number of 16 3 million agricultural labour families, 5 2 million were located in Eastern Zone of which one-half were in Bihar. The Southern Zone ranked next with 4 5 million labour families of which 2 1 million were in Madras. Out of 3 3 million labour families in the Central Zone, 2 million were concentrated in Uttar Pradesh The Northern and Western Zones accounted for 0 5 million and 2 8 million respectively

---

[13] Report on the Second Agricultural Labour Enquiry, 1956-57, Vol I —All-India, Government of India (1960)

The quantum of average agricultural employment available to casual adult male agricultural labourers during 1956-57 was 197 days Attached workers had naturally more employment with some continuity They were employed for 281 days Both the categories had, in addition, some non-agricultural employment, the former for 40 days and the latter for 16 days Wage employment for adult woman labourers was available for 141 days Women were mostly engaged in casual jobs Child labour has also been utilised in certain regions when seasonal conditions create a pressure on the supply of labour available On an average, child labour was employed for 187 days in a year The share of casual child labour in the total casual wage employment in agricultural operations came to 5 - 8 per cent

The average daily wage of the adult male casual labourer in agriculture was Re 0 96 and that of female labourer was Re 0 59 It may be noted that about 81 per cent of the total income of agricultural labour families was derived from paid employment As regards modes of wage payment, about 49 per cent of man-days worked by casual workers were paid in cash, 40 per cent in kind and the remainder partly in cash and partly in kind The average annual income of an agricultural labour family, calculated on the basis of wholesale prices, was Rs 437 The main source of family income in agriculture was wage-paid employment which accounted for 73 per cent of the total annual income, while income from cultivation of land, from non-agricultural labour and from other occupations accounted for 6 9 per cent, 8 0 per cent and 12 1 per cent respectively The average annual consumption expenditure of an agricultural labour family was Rs 617 It was considerably higher than the income, the deficit being Rs 180 This situation existed in all the States Of this deficit, 90 per cent was met out of the sale of real assets, transfer receipts and past savings The distribution of consumption expenditure reveals that 77 3 per cent were spent on food, 6 per cent on clothing and footwear, 7 9 per cent on fuel and lighting and 8 8 per cent on services and miscellaneous items About 64 per cent of agricultural labour families were indebted, the average debt per family per annum being Rs 88 The total volume of debt of all agricultural labour households was Rs 143 crores The percentage of debt incurred for consumption purposes was 46 4 while the percentage of borrowings for production and social expenditure was 18 8 and 23 9 respectively Of the average debt of Rs 138 per indebted family, 45 6 per cent was advanced by co-operative societies and others, 34 1 per cent by moneylenders 15 2 per cent by employers and 5 1 per cent by shopkeepers

Conclusion

What these two enquiries did bring out unmistakably is the enormous size of the problem Agricultural labour constitutes the lowest rung of the agricultural ladder, there is widespread unemployment and under-employment, the standard of living of this class is the lowest in the country This most disadvantaged section of the rural society is, therefore, in need of protection and assistance. It is feared that the process of general economic development may by-pass this section For instance, even though with the development of agriculture and irrigation there has been an increase in production and in the availability of total volume of work, this has to be shared by very large numbers The section of the rural population which is landless or which has only small fragments of land has benefited much less than the others; in some areas their conditions may have actually worsened It has, therefore, been realised that the programmes for the development of the rural economy which are undertaken in the interest of the rural population, as a whole, must be supplemented in several directions by special measures for assisting agricultural labourers Some of these measures may be mentioned at this stage Attempts to apply the Minimum Wages Act, 1948 to the agricultural sector were made in some States during the period of the First Plan Experience has, however, shown that the levels of agricultural wages are bound up to a considerable extent with the levels of agricultural productivity, nor would it be feasible to enforce higher wages in a situation of abundant supply of labour In reality, therefore, the application of minimum wages might be useful only in excessively low wage pockets An investment of about Rs 200 crores provided for the development of village and small industries in the Second Plan was meant primarily to benefit the weaker sections of the rural population like agricultural labourers and artisans Further, lands obtained through the application of ceilings and those donated in *Bhoodan* and *Gramdan* programmes were also intended to be utilised for the settlement of agricultural labourers Of the total area of 4 4 million acres donated as *Bhoodan*, about 8 3 lakh acres have been distributed so far A number of State Governments also took steps to provide house sites free or on a subsidised basis to landless agricultural labourers and protected them from forced ejectment

From the experience of a decade of planned development, it is clear that while special schemes in the interest of agricultural labourers are useful up to a point, they can only touch the fringe of the problem In the ultimate analysis the problem of agricultural labourers is a part of the wider problem of unemployment and under-employment in the rural areas Ultimately, therefore, the landless sections of the population can be substantially rehabilitated only by achieving rapid and intensive development in rural areas as part of the broader process of economic development for the country as a whole The more general efforts at enlarging the number of employment opportunities in rural areas are referred to in the next section We may end this section by making reference to the most significant development in the Third Plan, namely, the launching upon of works projects in rural areas, these programmes which are specially designed to benefit largely agricultural labourers are discussed in detail in the last section Under this programme it is hoped to provide additional wage employment in rural areas for

100 days in the year, specially during the slack season, to about 2 5 million persons by the last year of the Plan

EMPLOYMENT AND DEVELOPMENT PLANNING

Approach to the Problem

The existence of vast reserves of unutilised or under-utilised manpower has a direct relevance to the broad strategy of development planning There is in the first place the need to make the maximum use of idle labour for the purpose of development Here it is a question not so much of providing employment at existing or higher wages but rather one of effectively mobilising the available manpower resources at minimum social costs Secondly, there is the problem of increasing the productivity of labour so that employment can be provided at rising levels of wages or incomes

This aspect of the problem was recognised in the First Plan which emphasised that the two problems in fact are inter-dependent Utilisation of idle manpower for building up of productive assets without impairing the stability of economy requires, as a pre-condition, an increase in the productivity of labour and availability of larger supplies of essential consumer goods like foodgrains on which the bulk of the increase in money incomes is likely to be spent The Plan also took the view that unemployment was not merely an economic problem but also a social problem involving human values It was therefore suggested that the following criteria should be taken into account in framing the employment policy for development (a) maximum use of unemployed manpower for development purposes, (b) a restraint, in the initial stages, on the increase in money incomes, (c) raising the level of investment and technical efficiency so as to improve labour productivity, (d) guarding against technological unemployment in the early stages of industrialisation, and (e) balancing the allocation of investment among new activities, keeping in view the need to increase employment opportunities in the short run as well as the larger pattern of development necessary for an expanding economy

In accordance with these criteria the Plan emphasised the development of small-scale and village industries with a view to absorbing a large proportion of the increase in working population. It was also envisaged that within the sphere of agriculture itself, programmes of irrigation, land reclamation, afforestation, soil conservation, extension of mixed farming and the like would provide increased employment or reduce under-employment. Over a long period the expansion of tertiary sector was expected to absorb a considerable part of the additions to the working force. To quote: "In the immediate future ... attention has to be concentrated primarily on diverting the increases in working population to large and small-scale industries and the supporting services rather than on changing in any drastic way the overall occupational pattern. The change in occupational pattern will, no doubt, follow — perhaps faster than can be foreseen now — but this is not an end in itself and should be regarded more as a corollary of development rather than as a direct objective."[14]

This basic approach was also followed in the Second Plan which, however, adopted a somewhat more positive attitude towards changes in the occupational structure. We can do no better than quote the relevant portion from the Plan: "The objective of policy from the long-term point of view should clearly be to keep to the minimum further increases in the working force in agriculture. In fact, after a period, there should be a fall even in absolute numbers on the land."[15] It was however fully realised that even with the best of efforts some increases in the working force in agriculture would be inevitable, at least for some years to come. The utmost that one could therefore aim would be to reduce the proportion of the agricultural labour force to the total, to about 60 per cent by 1975-76.

Employment Position in the Second Plan

The progress of the various programmes of development in the fields of agriculture and rural industries during the first two Plans has been reviewed elsewhere. The extent to which these programmes have created additional employment opportunities cannot be measured with any degree of precision. According to the estimates of the Planning Commission, at the beginning of

[14] Report on the First Five-Year Plan (1952), pp. 25-26.

[15] Report on the Second Five-Year Plan (1956), p. 14.

the Second Plan there was a back-log of unemployment of 2 5 million persons in urban areas and 2 8 million persons in rural areas The Second Plan envisaged an addition of 10 million to the labour force — about 3 8 million in urban areas and 6 2 million in rural areas The programmes of development in the Second Plan were expected to provide employment outside the agricultural sector to 8 million persons, with the increase in agricultural production it was expected that there would be some reduction in unemployment in the agricultural sector itself Altogether the Plan envisaged a sufficient increase in the demand for labour to match the increase in the labour force amounting to 10 million The actual outcome however was less than these initial expectations Additional employment opportunities outside the agricultural sector generated during the Second Plan may be of the order of 6 5 million Thus the "back-log" of unemployment increased over the period of the Plan It should be pointed out however that one could not identify and locate this "back-log" It would be misleading to infer that a certain proportion of the rural labour force remained totally unemployed and that the number of such persons is on the increase In an under-developed economy it is not easy to measure precisely unemployment or under-employment There is a tendency, specially among the self-employed, to share work between members of the family or the group Thus, in such a situation unemployment takes the form of under-employment which in turn is reflected in the very low levels of incomes In other words, the available quantum of total work gets distributed among a larger labour force, to the detriment both of those who are employed at present as well as the new entrants to the labour force The concept of the "back-log" therefore in effect means that the rate of growth of per capita incomes in agriculture is kept down by the pressure of the surplus population which could not be absorbed anywhere else.

The Third Plan

The experience of the two Plans in the matter of providing employment opportunities in and outside agriculture shows that despite a significant increase in the level of investment in the economy and a rise in industrial and agricultural production, the problem of unemployment has hardly become less acute The task in the Third Plan is, therefore, not an easy one At the present rate of increase, there would be an addition of some 17 million to the working force during the Third Plan period This is apart from the "back-log" of unemployment at the end of the Second Plan which is reckoned at 9 million This estimate takes into account unemployment at the beginning of the Second Plan (5 3 million), the larger increase in labour force than visualized earlier (1 7 million) and the shortfall in the employment target originally adopted (2 million) During the Third Plan, the additional employment that would be created is estimated to be of the order of 10 5 million in the non-agricultural sector and 3 5 million in the agricultural sector Thus, when employment opportunities are created for about 14 million persons, leaving aside the back-log of unemployment of 9 million, even for providing work for the new entrants to the labour force there remains the need to find additional jobs for 3 million persons Some of the new entrants have, therefore, to be accommodated in agriculture itself

Intensive Agriculture

It is difficult to estimate the employment potential of the vast range of projects and programmes which form part of a plan of development spreading over a five-year period A broad idea of the employment implications of some programmes relating to rural areas may, however, be outlined One may begin with agriculture itself The Third Plan aims to increase agricultural production by about 26 per cent This will involve adoption of improved techniques, use of better seeds, greater use of fertilizers, measures for soil conservation and above all extension of irrigation All these will mean an additional quantum of work on the land, contour-bunding, digging of field channels and the like will provide temporary employment in construction, whereas improvement in techniques of ploughing, adoption of the Japanese method of paddy cultivation and, in general, intensive farming would involve a continuing or permanent increase in the quantum of work. No doubt, a part of this increase in demand for labour complementary to the various inputs in agriculture may mean a reduction in under-employment of the existing labour force, but a part of the demand may also mean creation of additional employment opportunities for the new entrants How exactly the total demand will be apportioned between the two would depend upon a number of factors such as the size of holdings, the extent of hired labour in farming and other organisational changes The point to be noted is that measures for increasing agricultural production would mean, to some extent, provision of additional employment and also increasing productivity and incomes per head

Village and Small Industries

Development of agriculture, however, can provide an admittedly limited scope for larger employment In the long run, the solution to rural unemployment and under-employment has to be found in the diversification of the rural economy, improvement in the production techniques of existing rural industries, and encouragement of new village and small-scale industries The objectives of the programmes for village and small-scale industries were clearly set out in the Industrial Policy Resolution, 1956, these are to (i) create immediate and permanent employment on a large scale at relatively smaller capital costs (ii) meet a substantial part of the increased demand for consumer goods, (iii) facilitate fuller mobilisation of local resources of capital and skill, and (iv) integrate these industries with the rural economy on the one hand and large scale industry on the other These objectives indicate that the role of these industries has been envisaged more as complementary to rather than competitive with the large scale industries sector However, the question of the choice of techniques, namely, whether a more labour-intensive or capital-intensive technique should be chosen, does arise in a limited number of cases It is very difficult to lay down a general rule for arriving at a correct choice All that one can say is that a balanced view of the conflicting considerations of larger employment and greater efficiency has to be taken

Improvement in the production techniques and organisation of the existing rural industries is, therefore an important plank of the programme The establishment during the First Plan of All-India Boards to advise and assist development programmes for the Handloom Industry, Khadi and Village Industries, Small-scale Industries, Handicrafts, Sericulture and Coir, was a major step towards providing a regular organisational base. Assistance in a variety of ways like credit, training facilities, technical advice, supply of improved tools and equipment and marketing is being provided In the Third Plan an outlay of Rs 264 crores has been provided for programmes of these industries as compared to Rs 180 crores in the Second These industries are expected to provide part-time employment or fuller employment for about 6 million and whole time employment for about 9 lakh persons. Ultimately, with improvements in techniques these industries offer a promise of growing into an efficient and progressive decentralised sector of the economy

Industrial Estates

There seems to be considerable scope for the expansion of the small-scale industries in fields where the question of the choice of techniques does not really present itself In order to make the small industries viable, however, some assistance by the State becomes necessary, in the initial stages at least Industrial estates which provide accommodation, power, transport arrangements for the smooth flow of raw materials and similar other facilities have proved to be quite helpful for the promotion of small industries During the Second Plan period, 119 schemes for industrial estates were sanctioned of which about 66 were completed and remaining 53 were carried over to the Third Plan In the Third Plan itself, it is envisaged that 300 new industrial estates would be set up One advantage of the industrial estates is that if they are located away from the larger urban centres, they would help to discourage the migration of population to such centres which are already congested and overcrowded The scope for expanding such industrial estates to rural areas, however, has also its limitation One of the primary requisites for the success of the industrial estates is availability of adequate power No doubt, the rural electrification schemes, as and when they materialise, will be of help in this context But the cost of such schemes is so prohibitive as to prevent any rapid advancement in the direction of the electrification of all the villages The average cost of providing distribution lines and sub-station equipments would be about Rs 60,000 to Rs 70,000 per village; if all the villages of the country were to be electrified, therefore, the capital outlay involved for distribution lines alone would exceed Rs 3,000 crores[16] The operation and the maintenance costs also tend to be rather high because of the low load factor In the immediate future, therefore, the best course seems to be the construction of industrial estates in small towns where electrification is relatively not so expensive and in towns which could attract labour from rural areas

Rural Industries Planning Committee

Here, it is necessary to make reference to an important programme, initiated recently, which, when effectively implemented, will go a long way in expanding employment opportunities in rural areas A high level Rural Industries Planning Committee has been constituted to review the progress of industries in rural areas and recommend programmes for their intensive development In pursuance of the Committee's recommendations, 45 rural industries projects have been taken up in certain selected rural areas in different States Each project area covers generally a population of 3 to 5 lakhs and consists of 3 to 5 complete development blocks The object of these programmes is to promote industries, which are based on agriculture and other local resources with a view to broadening and diversifying the base of the rural economy

Mobility of Labour and Regional Development

The problem of unemployment is rendered more acute by the various social and economic barriers to the mobility of labour between different regions As we have seen earlier, surplus labour seems to be concentrated in certain specific areas There are obvious difficulties in large scale transfers of population from one area to another and from the rural to the urban areas One solution to this problem is that an attempt should be made to take the work to the people rather than taking people to wherever the work is available In point of fact both these processes are necessary The development of small industries, rural electrification and establishment of industrial estates — all these aim at bringing work to the people This is also one of the considerations underlying the idea that the various development projects ought to be located in different parts of the country so that the benefits therefrom would be spread over as large an area as possible The location of industries is governed by a number of factors, the more important of which are availability of raw materials and power, facilities of transport and nearness to the consuming centres From a strictly economic point of view one would choose the location that is most economical in terms of cost In a planned economy however, this cannot be the sole criterion of deciding the location of industries Development of relatively backward or depressed regions has to be given a certain priority, and from this point of view dispersal of both large and small industries is justified The idea of regional development, however, has also its own limitations The development of the country has to be viewed as a whole, if regional considerations are given too much weight in the initial stages of development, there is the danger of wasteful use of scarce resources resulting in a retardation of the growth of the economy These considerations suggest that perhaps, simultaneously with the development of non-agricultural avenues of employment in rural areas, it is also necessary to adopt measures that promote inter-regional or geographical mobility of labour

---

[16] Report on the Second Five-Year Plan, *Op cit*, p 340

In the last analysis, the problem of rural unemployment and under-employment is the problem of the under-development of the economy itself It is only when the basic economic and social overheads such as power, transport and communications as also education and training in skills are provided that one could expect a substantial growth of small industries, trades and occupations, linking the organised sector of the economy with the vast diffused sector of agriculture Obviously, these are relatively longer term solutions They pose a challenge to the planners, a challenge which has to be met, *inter alia,* by a progressive stepping up in the rate of investment in the economy In the immediate future, however, it is contended that the existence of surplus manpower itself can be regarded as a savings potential and could be made use of in stepping up the investment in the economy This is the proposition which is examined in the next section

SURPLUS LABOUR AS POTENTIAL SAVINGS

It is contended that an under-developed economy like India has a certain advantage in that it has large reserves of unutilised or under-utilised manpower by utilising which it is possible to step up capital formation The argument can be explained briefly as follows At present the surplus labourers on land are being maintained by the family, even though they contribute little or nothing to output Now, suppose, these unproductive labourers are drawn from the land and are employed on say, a construction project There is already provision for the food which they were consuming in the previous situation Hence by setting these persons to productive work, it would be possible to add to the capital assets of the community It is in this sense that surplus labour constitutes potential savings Of course, this is only a bald statement of the proposition put forth by Prof Nurkse[17] There are one or two limitations, by which the above statement has to be qualified In the first place, consequent on the employment of the erstwhile under-employed, there is likely to be some increase in the demand for consumer goods particularly, foodgrains Secondly, if a large number of construction works are to be taken up naturally, the demand for complementary factors like building materials, tools and equipment, and skilled personnel would also go up The harnessing of the savings potential concealed in the surplus labour is, therefore, contingent upon fulfilment of these two conditions If the additional foodgrains and the complementary factors required are found, it should be possible to step up the level of investment by an amount larger than the value of these additional materials, the difference representing the net value of the labour of surplus manpower

The thesis advanced by Nurkse contains a basic fact that capital formation is, in the last analysis, stored-up labour To the extent there is idle labour, therefore, there is a potential available for increasing the rate of investment While conceptually the proposition thus seems to be valid there are several limitations to the practical application of the idea to programmes of planning Firstly, the additional employment created for the surplus labour would generate additional incomes, a major part of which would be spent on foodgrains Hence, the rate at which such additional employment could be created becomes itself a function of the rate at which the productivity of the agricultural sector could be raised. We, therefore, go back to what we have stated earlier, namely, that the increase in agricultural production is a pre-condition for stepping up the rate of investment Secondly, the problem of segregating the surplus labour is also tied up with the institutional considerations. For instance, at the sectoral level, where the surplus of labour undoubtedly exists in the sense that the aggregate output can be maintained with a much smaller labour force, this surplus labour is not totally unemployed and, therefore, it cannot be easily withdrawn from the sector for employment on construction projects In fact, if the present techniques and organisation of agriculture persist, there will not be any surplus labour which could be released for productive work elsewhere In this sense the surplus labour also is merely potential, and the surplus has to be set free by improving the organisation of agriculture which may include rational redistribution of land, reform of the land system and the management of farms This proposition also holds true at the farm level The under-employed farmer is tied to the holding in the sense that he is not wholly free to accept employment elsewhere Moreover, he may not be willing to accept wage employment without sufficient inducement In effect, this means that although he may be living at the bare subsistence level, he may have to be offered a wage rate which is much higher for inducing him to accept the employment

---

[17] Ragnar Nurkse Problems of Capital Formation in Under-developed Countries (1953), see particularly Chapter 2, Population and Capital Supply

A more feasible aspect of the problem is making use of the idle labour during what is called the off-season or the slack season of the year Here, of course, the question is one of selecting such projects as could be conveniently put through during the off-seasons in different areas

Utilisation of Rural Manpower

There is a wide range of local works which could be undertaken with the help mainly of labour and with small doses of capital The type of projects which are suitable for utilising under-employed labour for development purposes are (1) irrigation and flood control projects, land reclamation schemes including water-logging and drainage and reclamation of saline lands, afforestation and soil conservation schemes, construction of roads, (2) construction and maintenance of bunds and field channels for irrigation works, contour-bunding and terracing; (3) land levelling, surface drainage, (4) construction and repair of wells and tanks, school building, etc, (5) work connected with dry farming, (6) construction of approach roads linking the villages with the market centres and (7) consolidation of holdings[18] The list is exhaustive enough to indicate that such projects could be diffused all over the rural areas and also so framed as to meet the local needs of surplus labour. If these projects are to provide employment on a substantial scale it is necessary to select the projects properly, make provisions of complementary investment in the plans of the States and districts and entrust the village level organisation with the task of implementing them

It is also important to emphasise the role of local initiative and leadership in organising such projects Community efforts towards capital formation can be of considerable value The villagers, for example, can build their own roads, schools or wells, common pastures, they can also undertake afforestation or soil conservation on their own initiative Such works of local interest can be organised by community leaders with the financial help from Government "This work is valuable not only because it creates capital without reducing consumption, but also because it is the means of awakening the interest of what are sometimes rather stagnant communities "[19] In areas where the incidence of unemployment or under-employment is particularly high, special work projects could be organised by local authorities or State Governments Community effort could also enlist the co-operation of villagers in dealing with natural calamities like floods, water-logging, drainage, etc In a developing economy any democratic means of arousing the enthusiasm among the people and of stimulating them to desire further improvement needs to be strongly supported In this context the village co-operatives, the village panchayats or even schools can play an important role in the mobilisation of rural manpower

---

[18] Facets of Planning, Publications Division, Ministry of Information and Broadcasting, Government of India (1960), pp 27-40

[19] Measures for the Economic Development of Underdeveloped Countries, United Nations (1951), p 40

Progress in the First and Second Plans

Admittedly, no specific efforts were made on any significant scale towards giving such programme a more concrete shape during the First and the Second Plans Attempts to secure voluntary contribution of labour or *shramadan* for building up community assets in the community development areas were of course a step in this direction Some idea of the progress made in this respect could be had from the studies conducted by the Programme Evaluation Organisation Nearly 73 per cent of the 399 villages studied by the Programme Evaluation Organisation reported *shramadan*[20] No separate estimates of the value of the people's contribution in terms of labour are available However, the value of contribution in terms of cash, kind and labour amounted to about Rs 25 crores during the First Plan and to Rs 77 crores during the Second Plan[21]

Rural Works Programme

It is only in the Third Plan that the programme for utilisation of rural manpower, formulated broadly on the lines discussed above, has attained a more positive content It is reiterated that the rural works programme, launched upon during the Third Plan, is significant not merely for creating the additional employment opportunities, but even more as an important means for harnessing the large manpower resources available in rural areas for rapid economic development The main aim of these projects is to provide employment, which would be increasing from 1 lakh in the first year to about 2 to 5 million in the last year of the Third Plan, on supplementary productive works, particularly in areas with heavy incidence of unemployment and under-employment The programme was initiated in 1960-61 with 32 pilot projects Between 2 and 3 projects were allotted to each State and one to the Union Territory of Himachal Pradesh These projects included schemes for irrigation, afforestation soil conservation, drainage, land reclamation and improvement of communications On the basis of the experience of these projects the programme would be extended to other areas on a mass scale As a whole, the programme entails a total outlay of Rs 150 crores over the Third Plan period It is also visualised that the necessary construction organisations and labour co-operatives would be built up especially at the block level These organisations can carry stocks of tools, obtain contracts, secure necessary technical and administrative assistance organise cadres of trained skilled workers and work in close co-operation with the district authorities, *Panchayat Samities* and others

---

[20] The Fifth Evaluation Report on the Working of the Community Development and N E S Blocks, Programme Evaluation Organisation, Planning Commission (1958), pp 171-172

[21] Report of the Ministry of Community Development and Co-operation 1962-63, Government of India (1963), p 37

In March 1962, 196 more blocks were allotted as part of a second series For the third series, about 600 blocks have so far been allotted Of the 228 projects in the first two series, work had been effectively organised in 178 blocks by the end of March, 1963 and employment created in terms of man-days has been estimated at 75 lakhs[22] The Programme Evaluation Organisation which recently evaluated the working of the first series has pointed out the deficiencies manifest in the implementation of the programme[23] The report has made a number of important recommendations in regard to the location and the choice of projects, it has been emphasised that the projects should not only be employment-oriented but they should also develop the productive potential of the area Given adequate organisation at the technical and administrative level. it should be possible to make a success of the programme

Summing Up

The agricultural sector in India now shelters a large surplus labour which is historically a result of relentless pressure of population on the land In such a situation a permanent shifting of the redundant labour to the non-agricultural sector can be envisaged only as a long-term solution Absorption of the surplus manpower in non-agricultural employment cannot but be a gradual process Basically, it is a question of stepping up the rate of investment and the rate of growth of the economy as a whole In the meanwhile, however, the question of improving the economic conditions of the most disadvantaged section like the agricultural labour attains a sense of urgency On the other hand, it seems also possible to step up the capital formation by undertaking local works mainly with the help of such surplus labour Thus a type of "revolving" employment on local development works which could be undertaken with very small doses of capital can be provided, even this is contingent upon the economy's ability to augment the supplies of essential consumer goods, particularly, foodgrains and clothing The rural works programme launched upon during the Third Plan marks a significant step in this direction

---

[22] The Third Plan Mid-term Appraisal, Planning Commission, Government of India (1963), p 98

[23] Case Studies of Pilot Projects (Series I) for the Utilisation of Rural Manpower, Programme Evaluation Organisation, Planning Commission (1962)

CHAPTER XVIII

RURAL ENGINEERING

The achievements of modern science have contributed to man's control over nature mainly through developments in engineering It is not, therefore, without reason that in the development of economic thought, the need for a science and art of social engineering has been emphasised and has found a place Engineering gives us control over techniques in the fields of production, transport housing and a myriad other branches of individual and community life, thus enabling us to plan and control social phenomena and institutions Engineering is broadly divided into mechanical, civil, sanitary and electrical branches The subject for examination here is how far these branches of engineering are capable of transforming the rural environment Mechanical engineering has brought about in the West improvements in tools, implements and machinery and laid the foundation of this Machine Age It has played its part in elevating rural life to a new plane by providing new agricultural implements which have made large scale farming possible as in the U S A and the U S S R Civil engineering has contributed to the growth of cities and towns, development of roads, canals, railways or land reclamations Sanitary engineering has been employed for the improvement of living conditions through extensive schemes of housing, water supply and town planning Electrical engineering has been the foundation of what is sometimes called the New Industrial Revolution, comparable in its effects with the earlier revolution based on the substitution of steam for water-power or just the power of the human muscle It received a great stimulus by the invention of hydro-electricity and recently of thermal electricity, on which is built up a diversified industrial structure in countries like France, Germany, Switzerland Japan and Russia It is not, of course, suggested that these four branches function separately In most projects, they have to be combined and co-ordinated so as to give the best results The point is that it is mainly through developments in these four branches that far-reaching changes in rural life and environment have been brought about in countries of Europe and America and the same results could be obtained in India through a programme of rural engineering

MECHANICAL ENGINEERING

The possibilities of any large scale mechanisation of agriculture in this country are at best limited, at least so far as the immediate future is concerned There is, however, immense scope for improved tools and implements which could be utilised by our farmers on their small holdings and under diverse local conditions of soil, rainfall, etc The agriculturist as well as the village artisan needs cheap, light and simple machinery and developments in mechanical engineering which provide the same need specially to be fostered

CIVIL ENGINEERING

It is obvious that in India civil engineering has developed more than any of the branches mentioned and there is still immense scope for further development The main direction in which progress was recorded in the pre-Independence period was irrigation Road transport, inland water transport and land reclamations and improvement, on the other hand, received scant attention Since the commencement of the planned development of the country, however, increasing attention is being paid to these branches of civil engineering There is considerable scope for developing low cost rural houses including buildings for institutions like schools and also warehouses

IRRIGATION

The facts regarding the need for an assured and adequate water supply for agriculture have been given in an earlier chapter To recapitulate them briefly, except in the Indo-Gangetic plain and the West Coast, deficiency of rainfall causes harm both to man and cattle and often results in famine. In parts which are practically rainless, cultivation is not possible without irrigation The uplands of the Deccan are constantly exposed to drought Further, crops like rice and sugarcane require large quantities of water at regular intervals, and this is available only in a few regions In a word, the prosperity of Indian agriculture is ultimately bound up with the progress of irrigation This question has been discussed fully in Chapter V — Crop Productivity — Problems and Programmes for Improvement

RURAL ROADS

The importance and urgency of providing rural communications on an extensive scale hardly needs any emphasis The absence of such roads has all along been a serious handicap in the way of efficient and economical marketing of agricultural produce More regrettably, their absence has resulted in isolating our villages from all economic and social progress taking place in the rest of the country The excessive pre-occupation of the British administrators with the needs of foreign trade led them to concentrate on railways and on the requirements of larger towns and cities to the detriment of village roads Further in the layout of the meagre road system, military considerations carried a larger weight than those of rural development With the widespread use of the motor vehicle and the possibility of using electrical energy for power, a new vista of possibilities has been opened up and the time is ripe for formulating an integrated plan for co-ordinated development of road, railway, river and canal transport so as to weld all these agencies into a complete efficient transport system

The Royal Commission on Agriculture, while admitting the necessity of good main roads emphasised the importance of subsidiary communications which are of even greater concern to the cultivator "The provision of excellent main roads, adequate in all respects for every form of transport is of little benefit to the cultivator, if his access to them is hampered by the condition of the road which connects his village with them, what matters most to him is the state of the road between his village and the main road and his market"[1] These remarks are as relevant today as they were 37 years ago

---

[1] Report of the Royal Commission on Agriculture in India (1928) *Op cit*, p 373

After the advent of the railways in the fifties of the last century, the development of roads was paid little attention to until the constitution of the Central Road Fund in 1929. This scheme provided a continuous flow of funds, though on a small scale, which enabled the authorities concerned to develop road communications. The Nagpur Plan (1943) of Post-War Road Development laid down certain broad objectives for development of roads. These were that no village in a well developed agricultural area should remain more than five miles away from a main road, nor more than two miles from "a road". It was intended that in most cases the average distance from a main road should be less than two miles. On the basis of this criterion, it was proposed that within 20 years, all villages should be covered by link roads.

Road Communications before the First Five-Year Plan

There were four trunk roads (now called National Highways) with which subsidiary roads were linked: (i) from Khyber to Calcutta, (ii) Calcutta to Madras, (iii) Madras to Bombay, and (iv) Bombay to Delhi. In 1950-51 trunk roads covered about 5,000 miles out of a total metalled road length of 97,570 miles. As regards subsidiary roads, South India was best provided, whereas parts of Rajasthan, the Punjab, Orissa and West Bengal were the worst off. The absence of good subsidiary roads was attributed to sparseness of population in some regions, unbridgeable waterways and lack of suitable road construction materials in others. In addition to metalled subsidiary roads, there were '*kachcha*' (unmetalled) roads which covered 150,940 miles. Thus in 1950-51, there were 248,500 miles of roads in India to serve her 558,089 villages and 3,018 towns. This gave an average of 0.44 mile of road per village. Assuming that an average length of 8 miles of road is required for each village,[2] less than 6 per cent of the village road requirements were covered. Even the existing roads, poor as they were, were allowed to deteriorate further owing to neglect, especially by the local bodies which were in charge of these roads. Further, the growing motor traffic wore out the roads at a rapid rate and the problem of road construction and maintenance was thereby intensified

---

[2] *Cf.* S. S. Naik, "Rural Communications," *Quarterly Journal of the Local Self-Government Institute*, Vol. XIII, Nos. 3 and 4, January-April, 1943, p. 585.

Achievements in the First Decade of Planned Development

There has been a large extension of road mileage during the first decade of planned development of the country The road development programmes for the first two Plans were formulated in the perspective of the Nagpur Plan to which a reference has already been made The Nagpur Plan as applied to post-Partition India envisaged completion of a total length of 123,000 miles of surfaced roads and 208,000 miles of unsurfaced roads With the programmes undertaken in the First and the Second Plan, the targets envisaged in the Nagpur Plan are claimed to have been exceeded both in regard to surfaced and unsurfaced roads

The satisfaction derived from the achievement of the Nagpur Plan targets however is entirely misplaced To begin with, the Nagpur Plan of 1943 was based on a comparatively lethargic pace of activity then obtaining in the country — at a time when planned economic development was not even remotely thought of What is more important is that the popular belief of even this modest plan having been achieved at the end of the Second Plan period is both incorrect and misleading This fallacy can be attributed to two factors Firstly, the Plan stipulated in broad terms that agricultural areas should have a minimum of one-fifth of a mile of road per square mile of territory and non-agricultural areas one-twentieth of a mile, with additional roads in villages and around towns In calculating the mileages to be constructed, what was done was not to isolate the areas which had deficiencies in terms of the formula and calculate the additional lengths of roads required Instead it was assumed that the lengths of new roads needed could be assessed by deducting the then existing road mileage from the total mileage required on the assumption of a uniform mesh on the prescribed formula Now let us take a district which, under the Plan formula should have 1,000 miles of roads and which had 700 miles prior to the Plan The new length required therefore comes to 300 miles The district however has two parts, A and B, the Plan target for each of which is 500 miles What was ignored was that

Part A, prior to the Plan, had 650 miles and Part B only 50 miles Such disparities are only too common Indeed there are areas with no roads at all Now, to bring Part B to the level required, the district really needs 450 miles whereas the Nagpur Plan assessed the total requirements of the district at only 300 miles This is how in many States the figures were originally under-estimated It is not surprising that now the district finds itself in a state of heavy shortfall despite, the total figure for the district having been attained.

Another cause of the misconception relating to the achievement of Nagpur targets arises from the fact that road construction activity in certain areas in the First and Second Plans had to be influenced by considerations unforeseen when the Nagpur Plan was framed West Bengal is an instance Owing to the partition of the country in 1947 the directions of traffic flows in that State underwent a complete change Roads previously existing, criss-crossing East and West Bengal lost their economic value The result was that as against an additional mileage of 1,190 miles under the Nagpur Plan formula, the State had to build an entirely new road system of 20,673 miles, thereby exceeding the paper Nagpur target by 19,483 miles It is on the basis of such excess mileages above the original Nagpur Plan figures for certain States that the achievement of Nagpur targets has been claimed

In actual practice several States such as Maharashtra, Gujarat, Rajasthan, Madhya Pradesh and Bihar have yet a long way to go in achieving their respective targets As the National Council of Applied Economic Research Techno-Economic Surveys of these States reveal, Bihar and Maharashtra, have shortfalls of 50 per cent of the envisaged mileage, Rajasthan has a shortfall of 54 per cent, while Madhya Pradesh and Gujarat have yet to achieve 49 per cent and 30 per cent respectively

By the end of the Second Plan, the mileage of surfaced roads was expected to be 144,000 and that of unsurfaced roads well above 250,000 The actuals for March 1961 were 146,513 miles of surfaced and 294,113 miles of unsurfaced roads[3] Despite this considerable expansion of the mileage over the last ten years, the road network remains deficient in certain important respects such as unbridged river crossings, substandard surfaces, narrow carriageways, etc. About 60 per cent of the total mileage consists of non-macadamised earth roads, unusable during the rains Of the total road mileage in the country, about 15,000 miles constitute the National Highways, but only about 2,300 of these have a two-lane carriageway, the rest is all one lane Further about 1,000 miles of National Highways have only one-lane water-bound macadam surface or even inferior, instead of cement concrete or bitumen surface Most of the National Highways and State Highways have a crust thickness of nine to ten inches, which, according to informed technical opinion is inadequate for the present volume and intensity of traffic Moreover there are a number of missing bridges on the arterial routes On the National Highways alone about 80 major bridges remained to be provided at the end of the Second Plan Work on 47 of these is currently in various stages of progress

---

[3] Basic Road Statistics 1962, Government of India

By the end of the First Plan, an expenditure of Rs 146 8 crores had been incurred on roads The expenditure on road development in the Second Plan is estimated to be Rs 224 crores The cost of the road development programme initially provided in the Third Plan was about Rs 324 crores But this figure has subsequently been raised approximately to Rs 415 crores

Objectives and Priorities of Road Development in the Third Plan

The road development programme for the Third Plan has been formulated in accordance with the broad objectives laid down in the twenty-year road development plan for the period 1961-81, which has been drawn up by the Chief Engineers of the State and Central Governments The broad objective of this Plan is that no village in a developed and agricultural area should remain more than four miles from a metalled road and more than one mile from any type of road The Plan takes into account the special requirements of undeveloped and underdeveloped areas Under the Plan, the total mileage proposed to be reached at the end of the twenty-year period, *i e*, in 1981, is 22,000 miles of surfaced roads and 405,000 miles of unsurfaced roads[4] The broad order of priorities envisaged by the twenty-year plan, is as follows (a) On arterial routes missing bridges should be provided and road surfaces improved at least to one-lane black topped specification, (b) Main roads in the vicinity of large towns should be widened to two lanes or more, and (c) Major arterial routes should have at least two lane carriageways According to the Plan, the first task in regard to rural roads should be their improvement to fair-weather standards It may be emphasised that there has been an increasing demand for district and village roads, whose improvement benefits directly millions in the rural areas to be constructed during the Third Plan period This demand is proposed to be kept in view while considering the targets for various types of roads in the Third Plan

Rural Road Development in the Third Plan

Specific provisions have been made for rural roads in the plans of several States, apart from the financial allocations available for the development of rural roads under the programmes of local bodies and community development authorities As a result of an *ad hoc* enquiry instituted some time ago by the Ministry of Transport and Communications, efforts have been made to draw up district plans showing the appropriate alignments of possible future roads in rural areas Efforts have been made to achieve the desired co-ordination between the various agencies responsible for road development in rural areas and to secure in an increasing measure, contributions in cash, kind or manual labour from the people towards the construction of rural roads.

Type of Road Suitable for Villages

Pandit Jawaharlal Nehru, the late Prime Minister said

> "I have come to the conclusion that one thing to which we must give topmost priority is Roads — Roads of all kinds, not only very up-to-date bitumenised or cement roads, but roads of any kind to open out vast areas of this

---

[4] Basic Road Statistics 1962, *Op cit*

> country which are closed up today and which you cannot reach unless you walk or ride I give Roads first priority"

Truly in India we have need for every type of road that human ingenuity can devise

Roads in India may be classified currently under the following five categories

(*a*) *Kachcha* unmetalled roads,

(*b*) Metalled roads usable throughout the year by bullock carts and also by light motor vehicle traffic,

(*c*) Surfaced painted black top roads,

(*d*) Superior asphalt roads, and

(*e*) Cement concrete roads

Considering the paucity of village roads throughout the country, we need hundreds of thousands of miles of *kachcha* roads so that no village remains unconnected to a *pucca* road These can be of the (a) grade For India's predominantly agricultural economy provision of an infra-structure of such roads should be considered a basic obligation on the part of the Central and State Governments

The village road should serve as a link between the village and the nearest market town or to the nearest highway for the purpose of transport of agricultural produce by the cultivator The villagers carry their products to and bring their requirements from the market along such village roads The vehicle required for transport is the bullock cart of country design The bullocks are used for agricultural operations during the growing season and for draught in the off-season The quantity carted by each cultivator is not much, and his produce can be discharged at the market in a few trips in the season For this purpose, there is no need for a high class road or a motor vehicle for transport For the small cultivator carting is a subsidiary occupation and care should be taken that he is not deprived of this source of income unless there is a distinct compensating gain in the form of higher price for his products

It is necessary that all water courses running across such roads should be culverted At present, many *kachcha* roads double as water-courses This is what makes them impassable during the monsoon and ruins them for use during the rest of the year It is necessary therefore that water courses should be separated from village roads In most parts of the country where rainfall does not exceed 25 to 30 inches, such *kachcha* roads should be usable almost throughout the year though they may not be usable in and after heavy rains.

They can be laid extensively with the help of motor graders and bulldozers as in most cases mere levelling of the surface is required But in the absence of such machinery manual labour can do as well, under appropriate technical supervision Most of the community development and national extension service roads made by voluntary labour of the villagers come under this category The shortcomings about these latter roads are several, *inter alia*:—

(i) The villagers are seldom genuinely enthusiastic about giving their labour for the construction of the road Often they yield merely to political pressure from interested parties If sufficient enthusiasm for voluntary work cannot be generated it is best to get the work done by paid labour so that it is up to the required standard

(ii) There is nobody to guide the villagers in road construction from the point of view of the technique of road or culvert making Such technical assistance should always be provided by subordinate grade P W D or *Zilla Parishad* engineers or overseers

(iii) No thought is given to maintenance In the result, once the rain washes off parts of these roads, they deteriorate and dissolve into the countryside and are lost. Community development and national extension service roads should therefore be maintained after every monsoon by appropriate agencies nominated for the purpose and adequately financed. Finance will be dealt with later in this chapter

The havoc played on village roads by the rains apart, there is considerable damage done to these road surfaces through the widespread use of narrow wheels on animal-drawn vehicles Much thought has been given recently to the question of improving the bullock cart, particularly the tyres In view of the fact that the bullock cart will continue to be the mainstay of our village economy, for yet many years to come, the obvious solution is to employ some means whereby there is a reduction in the wheel-load concentration, causing thereby a saving in the wear and tear on road surfaces used by these carts Experiments conducted by the Bullock-cart Sub-Committee of the Indian Roads Congress, under the direction of the late Mr B V Vagh between 1944-1950, revealed that it was possible to produce a cart wheel built in all respects like the present wheel made with the same material, by the same wheel wrights, but with a diameter of 6″ to 9″ less than at present and with steel tyres of 3½″ in place of the currently employed 1½″ to 2″ ones This could be done without exceeding the present average cost, both initial and recurring, without affecting the present pay-load of the cart and without entailing more tractive effort on the bullocks The resulting saving in wear and tear of road surfaces caused by the proposed wheel was estimated at 35 per cent

In view of their significant advantage, it was suggested by the Sub-Committee, that steel tyres of 3½″ x ⅜″ should be introduced as the standard for the bullock cart wheel throughout India This recommendation can be used to tremendous advantage in revolutionising rural bullock cart transport It is an expedient certainly worthy of implementation

A further improvement on the Vagh Wheel which has vast potentialities is the improvement of the entire wheel assembly by fitting the wheel with pneumatic rubber tyres and roller bearings It will lead to larger loads being carried per bullock cart and therefore reduce cost of transport It will entail less strain on the bullocks and additionally reduce damage to the road surface

Although principally useful for inter-village bullock cart transport, the *kachcha* roads could be useful for light motor vehicles transport also, particularly during the dry months of the year This will pioneer the motor vehicle age into the deep countryside Such roads however will not be useful for heavy rainfall areas such as the West Coast — Kerala, parts of Orissa and Assam The minimum level of roads required there should be metalled ones as in (b) below

(b) Roads under category (a) will provide the basic infrastructure for village communication but not on a satisfactory, nor year round level Further it cannot be denied that the motor truck and the bus are making increasing penetration into the village economy They are bringing together more effectively the city and the village, and are funnelling the fruits of progress into the village To enable this process to be eased the earliest opportunity should be taken to promote *kachcha* roads to the metalled category which would make them useful throughout the year even in heavy rains, both for bullock carts as well as for light motor vehicle traffic Besides, in heavy rainfall areas, such as the West Coast, these would be the minimum level roads capable of providing inter-village communication even by the bullock cart alone Needless to say, these roads also should be culverted and bridged

(c) For heavier loading than under category (b), we shall need metalled black top roads These will be water-bound macadam roads, surface painted with asphalt so as to make them dustless Traffic thereon will be mostly motor vehicles, so a dustless surface is absolutely essential These also should be fully culverted and bridged

(d) For heavy motor vehicle traffic, we shall need superior roads with grouted asphaltic carpet — also sealed with asphalt and fully bridged Where loading is heavy cement concrete surface will be indispensable

(e) For heavier commercial and industrial traffic roads and for super highways, we shall need cement concrete surfaces In view of the scarcity of cement which may continue for several years these may have to have superior asphalt grouted surfaces of a specification higher than under (d)

Problem of Realignment

In this connection, mention may be made of the question of realignment of roads Many of the village roads are often so crooked that not only pedestrians but even wheeled traffic often take short cuts across fields thereby destroying crops These roads have to be realigned so as to save labour time as well as conserve agricultural produce The villagers themselves would voluntarily render assistance if they are properly instructed and the cost of realignment need not be heavy As a matter of fact, in the past, the villagers used to do this kind of work every year after the *"Dasserah"* festival Under the supervision of the village headman the villagers would repair the roads, straighten them and clear the scrub and undergrowth obstructing the roads The revitalised Panchayat could well be utilised as a suitable agency for collective work by the villagers on such roads

Then, again, the formation of ravines, and other erosions cause diversion of roads from their usual alignment, and thus add to the difficulty The village community is often unable to stop this damage by bunding or the construction of low-level bridges or culverts and the evil grows continually in depth and dimensions In some tracts where a number of rivers pass through a taluka this problem assumes serious proportions

The broad aim of rural road development programmes in a country like India should be to connect the villages with marketing centres and taluka and district headquarters The State Governments should pay special attention to the construction and maintenance of these roads and for this purpose enlist the co-operation of villagers Before the road programme is drawn up for a taluka, a preliminary survey should be made to assess the most economical realignment of roads to serve this purpose

This may even involve the exchange of lands between the cultivators This is often a difficult matter but given a sympathetic attitude on the part of the official machinery, under the legislative reforms in progress, a simple and expeditious procedure for measurement, valuation and exchange of land as also for the ultimate settlement of accounts can be formulated and valuable results can be attained When this difficulty is overcome, the State Government should enlist the co-operation of villagers who should supply their own manual labour and prepare new straight *"mooram"* roads Once the saving of the crops as a result of this realignment and reformation of roads as well as the advantages of easier accessibility to marketing centres are demonstrated to the villagers it would undoubtedly receive the appreciation of the rural population who would not hesitate to co-operate in this constructive endeavour There is considerable scope for development of village roads on such co-operative basis by mobilising the local population for executing the local projects in the Community Project areas

Financing of Village Roads — Rural Road Fund

The Indian Road Development Committee (1928) remarked that "road development in India is passing beyond the financial capacity of local governments and local bodies, and is becoming a national interest, which may, to some extent, be a proper charge on Central revenues" Construction of village roads will naturally increase the goods traffic of the railways and motor vehicles which would in turn fetch greater income for the Central and also State Governments The Central Government may finance bigger roads so that State funds released thereby may be utilised for village and feeder roads The Royal Commission on Agriculture expressed the view that road development may be expedited by raising loans for financing the same It was further stated that in view of the quasi-permanent nature of the roads, the annual amount required for amortisation of these loans should not be a heavy charge on the State Governments' resources As regards the maintenance of village roads, the Commission rightly observed, "any improvement in the condition of village roads must depend largely, if not entirely, on the efforts of the villagers themselves" The proper course would be to induce the villagers, through the Panchayat, to supply the labour necessary for this purpose more or less at a nominal wage as a matter of social duty The Motor Vehicles Taxation Enquiry Committee (1950) recommended certain proposals for augmenting the resources of road development, as continuity in the supply of funds is essential for avoiding wasteful expenditure and pursuing even modest programmes without interruption

A scheme for the creation of a rural road fund was submitted to the Planning Commission in 1961, but was rejected In July 1962 however, the subject was reintroduced for discussion, and a further study of the problem was made The proposed fund, it was found, would enable a larger programme for the development of rural roads, and would have to be constituted from the following sources

1 Specific allocations from excise duty on petrol and diesel oil or from the accrual of funds due to a reduction in the basic price of petrol and diesel oil allowed by the oil companies
2 A sum equivalent to 10 per cent of the provision made for road development in the Third Five-Year Plan of each State, and
3 Some amount of the allocation assigned by the Planning Commission for local development works.

No decision on this subject has yet been announced However it is clear that all the sources mentioned above would have to be tapped if funds are to be provided on an adequate and continuous basis If village roads are to be upgraded to the (b) stage where they would be normally useful for motor vehicle traffic, large funds would be required for constructing them on a commercial scale

To sum up, village roads are essential for the economic improvement of the agriculturist An infra-structure of "*kachcha*" roads to ensure that every village is connected with a *pucca* road can be laid with motor graders and bulldozers or even by manual labour under proper technical supervision Such roads can be preserved from premature deterioration by improving the bullock cart As regards finance, a definite and substantial allotment for rural roads should be ensured by earmarking for the purpose a portion of the huge revenue which the State derives from taxation of motor transport The work of annual repairs to these village roads may be entrusted to the villagers themselves through a system of corporate labour

SANITARY ENGINEERING

Housing Problems in Villages

The problems of sanitary engineering with reference to the needs of the village are next in importance Usually when one mentions the housing problem, one thinks only of urban housing, and housing especially for industrial labour But it would hardly come as a surprise to people who know village life that housing in the villages is also a serious problem, as the conditions prevalent are a great source of danger to the health, efficiency and even morality of the people The houses in the villages may be divided according to their quality into three categories. First, there are houses which are well-built, fairly well-ventilated and with sufficient accommodation for men as well as cattle They are generally built of brick-masonry They are owned by *brahmins,* banias, landlords, village officers and such other members of the higher sections of the village community But even in these relatively commodious houses, occasionally cattle may be found sharing the same room with human beings, not for want of space, but because of a peculiar belief that the cattle need attention of the housewife at night

Next come houses which are of mud-masonry and have thatched or tiled roofs These are ill-lighted and ill-ventilated The whole family and even the cattle live in the same room except during the hot season These houses are highly insanitary and unhygienic for human habitation Any attempt to open windows in them is resented The inmates have no vitality to withstand climatic changes, nor have they separate space either in the courtyard or a separate shed, where cattle may be stabled Usually, the kitchens are in the living room and in the absence of chimneys all the smoke hangs on in the living apartment for a considerable time The third class of houses are mostly those of the labourers and village menials They are small and flimsy structures of mud, dark and infested with flies and mosquitoes With the insanitary habits of the inmates these dwellings are more like village slums

On the whole, there may be a few houses in our villages here and there which may be considered well-maintained But viewed from the modern standards of sanitation and hygiene, the majority are certainly unfit for human habitation Usually these are huddled together, with very narrow lanes in between The manure pits and the refuse dumps are very near the dwelling houses and in many cases the uneven ground roundabout where filthy water accumulates is a perpetual source of malaria and other diseases like *kala azar* and hookworm

Lest the people's susceptibilities should be touched, not much work was done by Government agencies to improve housing conditions The only work done was confined to the opening of windows by the sanitary staff There were, however, a few exceptions, such as, in Gurgaon where excellent work had been done in this direction under the inspiration of Col Brayne The Bengal Land Revenue Commission's Report observed that of the four provinces, Bengal, the Punjab, Madras and Uttar Pradesh visited by them, Bengal was the worst in respect of housing conditions On the other hand, Gurgaon (Punjab) was the best This proves the oft-repeated hypothesis that where sympathetic efforts are made and proper facilities are provided, people are not averse to improvements The main handicaps are low vitality of the people, decadent social system and the limitation of financial resources

It would be difficult to alter the housing conditions all at once It would require education and propaganda for a long time. This indicates an entirely new line of approach to this problem To ensure successful and lasting results, the problem needs to be tackled from more than one side Education of the right type would have to be given to the villagers so that they may know the value of clean surroundings and sanitary living Possibly, in order to avoid congestion, house-planning together with strict enforcement of general rules of sanitation through the Panchayats would be necessary. Under Indian conditions, the approach to this whole problem would be easier if services of female workers are enlisted for propaganda and instruction as they can influence the womenfolk concerned more effectively Better houses cost money and, so ultimately, the housing problem gets linked up with the problem of raising rural incomes In the meanwhile, it would be necessary to enlist the active co-operation of the village panchayats so as to make the best use of local initiative and interest. At the same time, Government must assist in the task of relieving congestion and extending the village area In several cases it is difficult to acquire land for the extension of village sites, it takes years to decide conflicting claims and resolve objections from people to the acquisition of their lands There should be an expeditious procedure for this question Along with this, the village people, particularly the farmers, should be granted special facilities, (i) to enable them to live on the fields wherever possible, (ii) for the creation of new hamlets in the "seem" area and (iii) to provide land for cattle sheds (*"Vadas"*) adjoining or near their houses where possible Rural Co-operative Housing Societies financed and otherwise helped by the Government should also be started

Much attention has not been paid so far to village planning in India In some cases, there is a penalty imposed on farmers building *"pucca"* houses in their fields This anomaly should be removed by granting a concession in land revenue for a certain number of years for the area occupied by such houses The advantages of such a move are obvious from every point of view It would be an incentive to a consolidation of holdings Special loans should be granted free of interest to construct sanitary farm-houses on approved models in village areas also.

In this connection, it is necessary to emphasise that engineers in India should specialise in the construction of rural houses with mud-masonry, bamboo and other cheap materials locally available Several designs should be prepared for different climatic conditions and environments and made available to the Panchayats for guidance There are a number of qualified engineers in the cities, but it does not appear that they have so far seriously considered the problem of rural engineering This is a commentary as much on our educational system as also on the attitude of Government to problems of welfare in village areas

The improvement of housing conditions in rural areas is a task of great magnitude There are 54 million houses in rural areas most of which require to be rebuilt From the investigation of the housing conditions in 1,848 sample villages by the National Sample Survey (11th round August, 1956 to January, 1957), it is noticed that 60 per cent of the households representing 58 per cent of the population lived in houses which were all *kachcha,* while another 16 per cent of the households representing 17 per cent of the population were putting up in almost *kachcha* structure (*kachcha* plinth and wall with fabricated roof) as against 3 per cent of households (3 per cent of population) in all *pucca* type of houses. Further, more than two-thirds of the households had only two rooms to live in (as much as 35 per cent in one room) and average floor space per person was only 83 sq ft range varying from 43 sq ft to 165 sq ft Bottom 20 per cent of households forming 24 per cent of population had the share of 15 per cent of rooms and 6 per cent floor space, as against 25 per cent rooms and 47 per cent floor space occupied by the top 20 per cent of households constituting only 15 per cent of the population, while lower fifty per cent of the households who formed 57 per cent of the population had only 42 per cent of the rooms and 24 per cent of floor space to their credit Another distressing feature is that nearly 93 per cent of the households did not have any built-up latrine Only 3 per cent of the households had the privilege of such latrines for individual uses while about 2 per cent more used these in common with other households[5]

The designs of houses in villages even for the privileged or better-off sections of the population do not provide for the minimum requirements of light, ventilation and drainage The artisans and other village craftsmen live and work under conditions which are a serious impediment to the adoption of improved techniques The congestion which exists in the areas where the scheduled castes, and other backward classes reside is the worst This emphasises the need for finding additional sites for rearrangement of the village sites

The prevailing housing conditions indicate the urgent need for a plan for every village which will provide for the improvement of rural housing as a part of general rural development There are, however, certain specific measures which can be taken in the short period The problem of housing in rural areas does not call for a large financial outlay The bulk of the materials used are locally available and there is considerable scope for voluntary co-operative labour and local community action The rural housing programme is, therefore, essentially in the nature of aided self-help programme in which education and guidance play a large part The two principal ways in which the State can assist in the improvement of standards of housing in the villages are (1) through the demonstration of model houses built

---

5 The National Sample Survey Eleventh Round, August 1956 — January, 1957, Number 51—Tables with Notes on Housing Condition, Government of India (1961), pp 6-10

in selected areas, and (2) building better type of houses at a low cost within the means and resources readily available to them in the locality It is estimated that the money cost of a house built with the villager's own labour is not likely to exceed Rs 200 to Rs 300 per unit What the State can do, therefore, is to undertake pilot projects to construct such low cost units and disseminate information on the experiments made in cheap housing in the various parts of India In Puerto Rico a similar programme of aided self-help in housing has yielded good results Conditions obtaining there are similar in many ways to those obtaining in this country The principle as practised in Puerto Rico may be usefully adopted in India in areas which offer scope

Progress During the Five-Year Plan Periods[6]

When the First Plan was launched, the housing programme was mainly directed towards housing for industrial workers and low income groups The programme was considerably expanded during the Second Five-Year Plan with the introduction of schemes of slum clearance and slum improvement, plantation labour housing, village housing and land acquisition and development

Improvement in housing conditions in the villages has a manifold significance It raises the level of living, provides greater opportunities for work and is a vital element in the transformation of rural life Yet, because of the magnitude of the problem and its inherent difficulties, the task of improving housing conditions in the villages had to be viewed during the course of the First Plan not as an isolated objective but as a part of the larger scheme of rural development Consequently, rural housing was considered to be an intrinsic part of community development and village planning It was against this background that the specific programme of village housing scheme was introduced in 1957, *i e*, in the middle of the Second Plan

The village housing scheme provided for selection of villages in group of four to six and the preparation of lay-out plans for these villages after carrying out socio-economic surveys The implementation of lay-out plans and rebuilding of houses was taken up in stages so that the entire village might be remodelled in a period of 8 to 10 years Co-operatives for the manufacture of different building components were organised Assistance in the shape of loans up to 62⅔ per cent of the cost of construction, subject to a maximum of Rs. 2,000 per house was given for building up houses Loans were also given for carrying out improvements in the existing houses in accordance with the standards prescribed by the State Governments Provision had also been made in the scheme for acquisition of land required for streets, community buildings, new house sites and for thinning out densities, etc Research-cum-training centres were established at six centres for promoting research in improving local building materials and construction techniques and for training personnel required for executing the scheme The rural housing cells set up in the States for preparing lay-out plans and model designs, etc, have been further strengthened

---

[6] This and the following paragraphs are based on the Report of the Third Five-Year Plan, *Op cit*, pp 693-696

During the Second Five-Year Plan about 3,700 villages were selected and socio-economic and physical surveys of about 2,000 villages were completed Lay-out plans of 1,600 villages were drawn and loans amounting to Rs 3 6 crores were sanctioned for construction of about 15,400 houses About 3,000 houses were completed and the remaining houses were under different stages of construction During the Second Plan, it is estimated that Rs 3 7 crores would be spent on rural housing The Third Plan has proposed to build 125,000 houses/tenements and an expenditure of Rs 12.7 crores is expected to be incurred on village housing.[7]

Working of the Rural Housing Scheme

In the working of the village housing scheme during the Second Plan, it has been observed that as a rule the project was taken up in isolated villages and not in groups of villages as was envisaged in the scheme The latter aspect is important because only when a small group of villages is taken up together it is possible to arrange to set up a brick-kiln or arrange for the supply of components on a co-operative basis to meet a continuing demand. The full impact of a housing programme in a rural area by way of increase in employment and improvement in environmental conditions cannot be obtained unless the programme is undertaken systematically in groups of adjoining villages The present practice is to prepare lay-out plans generally for selected villages. They provide for the extension of the village site, improvement of village streets, drainage and land for such common amenities as the village schools, the playground for school children and the Panchayat Bhavan However, not enough is being done in these directions and the available funds tend to be devoted mostly to the construction and improvement of a small number of houses It is, therefore, recommended that the first claim on the resources provided for the village housing scheme should be for the extension of the village site, improvement of roads and drainage and allotment of land for essential purposes of interest to the community as a whole The key to improved housing is the availability of land for the extension of village site To the extent possible, the community itself through mutual arrangement should be expected to provide the additional land required However, for assisting the community to acquire land for providing house sites for agricultural workers and *Harijans,* it may be useful to provide for a limited measure of assistance It is suggested by the Planning Commission that the first place in the programme for improved village housing should be given to housing for *Harijans,* agricultural workers and those sections of the community whose housing conditions are specially deplorable For scheduled tribes and scheduled castes in particular, apart from funds available under the village housing scheme, assistance by way of subsidies is also given under the programme for the welfare of backward classes Provisions under the two programmes should, therefore, be used in a co-ordinated manner

---

[7] Report on the Third Five-Year Plan, *Op cit*, p 681

Designing of Rural Houses

Rural housing cells which have been set up in the States along with research-cum-training centres are engaged in designing houses suited to different parts of the country and involving the use of local materials Work in these directions should be intensified.

It has been observed that there is frequently a temptation to resort to construction of houses on urban patterns constructed in brick and cement without exploring the possibility of using local materials to secure economy of construction costs and to ensure continuity of cultural traditions and background of the locality and functional requirements of rural life There is also inadequate stress on community effort in improving roads and drainage, contribution by way of land for the extension of village site and mutual aid in constructing improved housing The scale of rural housing problem is so vast that provision of additional fund by itself, necessary as this may be, can produce a small impact In the main, the problem is one of creating a widespread desire for better living, evolving practical methods for improving the village environment and building up houses at relatively small cost based mainly on co-operative self-help, community effort and contribution and use of local building materials

The Planning Commission emphasised that in the Third Plan the programme of rural housing should be linked up more closely with the different schemes of community development such as provision of water supply, roads, drainage, public health, education etc It is also necessary that rural housing activity should be effectively co-ordinated with other connected programmes of rural development so as to ensure that villages selected under the village housing scheme derive the maximum benefit from the limited resources which are available, *e g*, the subsidy admissible under the programme for ameliorating the living conditions of scheduled castes and scheduled tribes should be made available to the members of these communities residing in the villages selected under the scheme Special attention should be given to the setting up of brick-kilns and local production of building components such as doors, windows, etc For this purpose it is recommended that co-operatives should be organised and they should be given technical assistance and materials such as wood, coal-dust, etc.

VILLAGE WATER SUPPLY

Another subject of equal, if not greater, importance to village life is supply of clean drinking water In the absence of this facility, people suffer from many diseases and fall prey to epidemics like cholera A majority of villages has no adequate and protected water supply In some places the water is contaminated as the same source is used for drinking purposes as well as for washing, including the washing of animals In some cases, the natural supply is short, in others, there is lack of proper care The National Sample Survey conducted in 1956-57 revealed that 69 per cent of households representing 71 per cent of population used ordinary wells for drinking water, while another 22 per cent of households representing 21 per cent of the population depended on tanks, ponds, rivers and lakes as their principal source Only 1 per cent of households and population had the benefit of municipal water supply and only 5 per cent of households and population could get tube-well water[8] Adequate arrangements for the supply of water needed for various purposes should be a primary responsibility of the local body in charge, and proper supervision in this respect by officials is an obvious corollary of the same

Problems of rural water supply vary from region to region and often within the same region In the First and the Second Plan rural water supply schemes have been taken up mainly under the programmes for community development, local development works and welfare of backward classes These are supplemented by the national water supply and sanitation programme under Health which deals with the provision of water supply to groups of villages through works requiring major technical skill in design and construction The programme gives priority to areas of great water scarcity and salinity and those in which water-borne diseases are endemic The expenditure incurred on this scheme during the First and Second Plans is estimated to be about Rs 33 crores and 11,000 villages were provided with water supply through pipes[9]

Surveys to ascertain the present state of rural water supply are being undertaken in a number of States Where such surveys have not been initiated, it is necessary to arrange for them so that for every State a correct assessment of the extent of the problem may become available as a basis for detailed programme

[8] The National Sample Survey Eleventh Round August, 1956 — January, 1957, Number 51, *Op cit*, p. 10

[9] Report on the Third Five-Year Plan, *Op cit*, p 654

to be implemented during the Third Five-Year Plan To achieve the objective of making supplies of good drinking water available to most villages in the country by the end of the Third Five-Year Plan, it will be necessary not only to make an intensive effort but also to ensure that at every stage there is effective co-ordination between agencies concerned in carrying out the programme of rural water supply at the district and block level and to mobilise local initiative and contribution to the utmost Experience during the First and Second Five-Year Plans has shown that great care is needed in preparing technical designs and estimates of rural water supply schemes and keeping down their cost

Under different programmes, a provision of about Rs 67 crores is earmarked in the Third Five-Year Plan for rural water supply This includes Rs 35 crores for the village water supply programme, about Rs. 16 crores under the plans of the States under health, about Rs 12 to 13 crores under the community development programme and about Rs 3 to 4 crores under the programme for the welfare of the backward classes[10] The greater part of the amounts provided for the village water supply programme is intended to be available for (a) backward areas, (b) areas not covered by the community development programme, (c) pre-extension blocks, and (d) blocks which have completed their first and second stage in the community development programme The village water supply programme is intended primarily to deal with the rural water supply at the village level As a rule, a ceiling of Rs 10,000 per village is proposed to be observed The public contribution is generally expected to be about 50 per cent, but this proportion may have to be modified in poor and backward areas or areas where technical conditions are unfavourable Schemes for groups of villages which involve provision of piped water supply and works of an engineering character are to be taken up by provisions under the health programme The village water supply programme during the Third Five-Year Plan is proposed to be undertaken at the block level through *Panchayat Samitis* and Village Panchayats, the funds being routed through the organisation at the block level It is proposed that there should be a broadly agreed programme at the local level so that all the provisions available for water supply may be effectively used

---

[10] *Ibid*

Along with rural water supply, greater attention is proposed to be given to the programme of rural sanitation, specially to the sanitary disposal of excreta in villages during the Third Five-Year Plan Problems relating to the proper designs and construction of village latrines and the educational and organisational aspects of the programme for their promotion have been recently studied The broad lines of an action programme in this field may be said to be fairly well established Although in the beginning progress may be slow it is important that in each development block, effort should be made to create greater awareness of rural sanitation problems and to introduce the use of sanitary latrines in schools and camps and, where possible, in individual houses It would facilitate introduction of latrines if the local sanitary inspectors are trained in casting the latrine sets With the co-operation of the local people these latrines can be constructed at a fairly low cost If this work is undertaken as a block programme it should be possible to achieve substantial results within a foreseeable period Health education is of course the most important aspect of the programme of rural sanitation. The advantages and convenience of clean, odourless and cheap latrines are obvious They are no less essential for conserving the fertilizer value of human wastes and enriching the soil

ELECTRICAL ENGINEERING

That electricity has had a great civilising influence on life needs hardly to be stressed It is a source not only of light but also of power It can be used for domestic as well as industrial purposes As a motive power for agricultural operations and for village industries, it can raise efficiency, increase earnings and thus improve the standard of living in the rural areas

Substantial progress has been recorded by the countries of Europe, including the Soviet Union and U S A, in rural electrification Indeed in many countries rural electrification is almost 100 per cent, for instance, 98 per cent of farms in U S A receive central station service In Switzerland, Denmark and Belgium more than 90 per cent rural households and farms are supplied with electricity In contrast, India and other countries of Asia excluding Japan, have to go a very long way before they can catch up with the Western countries in the sphere of rural electrification In fact, it is not only in rural electrification but in the total electric power generation that India and the countries of Asia lag very much behind the Western countries Electricity output in the ECAFE region, which comprises majority of the countries of Asia including Japan, accounted for only 6 4 per cent of the world's output in 1959 Even this output was largely due to the contribution of Japan which accounted for 75 per cent of the total electricity generation in the ECAFE region

The use of electric power in the rural areas will enable the development of the economy on a decentralised basis As the Village and Small Scale Industries Committee (popularly known as the Karve Committee) rightly pointed out, "both the physical and economic aspects of the decentralised yet progressive economy are vitally dependent on the availability of cheap power in rural and some urban areas One of the most important factors in transforming Indian economy into a progressive and yet decentralised and co-operative structure is the spread and use of electric power all over the country"[11] If the objective of raising the standard of living of the common man is to be achieved, the problem to be solved is how to produce more wealth in agriculture and industry and to provide greater opportunities for gainful employment It may be necessary to provide mechanical aid for intensive cultivation, particularly for lifting water from underground sources and to increase industrial production The need for resuscitating the cottage industries to provide remunerative employment for the agriculturist during the off-season is urgent In all these tasks extension of power to rural areas will be a powerful aid The experience of Japan shows that once power is extended to rural areas, industries are likely to spring up and bridge to some extent the gulf that separates the urban and the rural areas It would, in addition, promote rural welfare by providing an environment equal in comfort and convenience to that enjoyed in urban areas where higher wages and more comforts of life are available Thus, it will be seen that extension of power to rural areas is likely to alter considerably socio-economic conditions of the villages and create appropriate base for building up a new socio-economic order, based on the principles of democratic decentralisation

---

[11] See Report of the Village and Small Scale Industries Committee, Government of India (1955), p 23

It has been a settled policy of most of the Governments in the world to make electricity as cheap as possible and to extend its uses In order to reduce the cost of generating electricity they have eliminated small uneconomic installations and introduced the big power stations linked up in a grid so that wide areas can be reached and power supplied at a low cost

In India hardly any progress was made in extending electrification to rural areas before Independence The first attempt at rural electrification was made in the State of Mysore about the year 1929 followed by Madras State in 1931 Uttar Pradesh was the next to go into the field The grid system in that State supplied light to several villages and power has also been used to run some small flour mills and similar plants In the Mysore State an attempt was made to supply power for lift irrigation from wells With the completion of the Pallivasal project in 1940 the former State of Travancore-Cochin came into the picture Yet in 1951, when the First Five-Year Plan was launched only 3 310 localities having a population of less than 20,000 each had electric power facilities This formed only 0 72 per cent of the total number of such localities which numbered 5 60,522 Even among the medium size towns, containing a population between 20,000 and 50,000, only 240 were electrified out of a total of 401

Government Policy

This unsatisfactory position in rural electrification was primarily due to lack of interest on the part of the Government in developing electric power in this country The treatment of electricity as a matter of public concern had passed through many vicissitudes "The Government of India seem to have become aware of it for the first time in 1905 when a circular letter was issued by it to the Provincial Governments Thereafter both the Provincial Governments and the Central Government seem to have lapsed into inactivity They woke up when the urgency of active interest in electricity was emphasised by the Report of the Indian Industrial Commission published in 1918 and the Report of the Indian Munitions Board which came out a year later"[12] Even thereafter no efforts were made to develop the power resources and a hydrographic survey that was undertaken in 1919 on the recommendation of the Industrial Commission was wound up in 1923, as it was found that the Act of 1919 did not permit the Central Government to spend its revenues on matters outside its field of administration

Progress of Rural Electrification

After Independence and particularly with the commencement of the planned development of the country, the need for extension of electricity to rural areas has been increasingly realised and some progress has been recorded during the First and the Second Five-Year Plan periods The progress recorded during the First and the Second Five-Year Plans as well as the programme of rural electrification fixed for the Third Five-Year Plan is given in Table I As against the target of 43,000 towns and villages to be electrified by the end of the Third Five-Year Plan, the total number of towns and villages electrified increased to 31,979 in 1962-63[13]

During the World War II period and after the attainment of Independence there has been a great demand for electricity in the States for agricultural uses, particularly for tube-well pumping As a part of the Grow More Food Campaign pumping units were installed on rivers or wells It was recognised that electric power would go a long way in the large scale development of tube-wells or lift irrigation from rivers or open wells There has been a continuous rise in the consumption of electricity for irrigation as also in the number of consumers This can be seen from the following figures From 64 million kilowatt hours in 1939 consumption for irrigation rose to 93 million kilowatt hours in

---

12 *Indian Information*, November 15, 1943

13 The Third Plan Mid-term Appraisal, *Op cit*, p 106

TABLE I

TOWNS AND VILLAGES ELECTRIFIED IN INDIA

Population range	Total number according to 1951 Census	Number electrified by March 1951	Number electrified by March 1956	Number electrified by March 1961	Number to be electrified by March 1966 (Estimate)
Localities having population over 1,00,000	73	49	73	73	73
Localities having population between 50,000 to 1,00,000	111	88	111	111	111
Localities having population between 20,000 to 50,000	401	240	366	399	401
Localities having population between 10,000 to 20,000	856	260	350	756	856
Localities having population between 5,000 to 10,000	3,101	258	1 200	1,800	3,101
Localities having population less than 5,000	5,56,565	2,792	5,300	19,861	38,458
Total	5,61,107	3,687	7,400	23,000	43,000

Source Report on the Third Five-Year Plan, *Op cit*, p 404

1945 and to 203 million kilowatt hours in 1951 Electricity consumption for irrigation in India since 1955 is shown in Table II

TABLE II

ELECTRICITY CONSUMPTION FOR IRRIGATION DURING 1955-61

Year	Quantity consumed (in million kWh)
1955	254 803
1956	316 180
1957-58	565 817
1958-59	583 482
1959-60	727 026
1960-61 (estimate)	836 0

Source Report on the Third Five-Year Plan, *Op cit*, p 424

It may be noted that between 1955-61, electricity consumption has risen by 228 per cent Thus it will be seen that there has been a continuously increasing demand for power for irrigation in India and this is likely to continue for quite some time

Obstacles to Rural Electrification

While it is desirable and necessary to extend power facility to rural areas it has to be noted that the main impediment to rapid progress in rural electrification is the problem of making power supply available to small units spread over long distances in our country The volume of investment required to make power supply available to a village is relatively high ranging from about Rs 50,000 to Rs. 70,000, if we take into account only the outlay to be made on transmission and distribution, if generation costs are to be added the investment required would range from about Rs 77,000 to Rs 97,000 or more However, it is possible to bring down the capital cost of rural electrification by about 20 to 25 per cent without impairing efficiency by adopting suitable measures such as use of wooden poles for line supports and aluminium wires for conductors and adoption of reduced factors of safety Apart from this high cost of supply, the fact that rural community is scattered over a vast area and is steeped in poverty, restricts the effective demand in a given area to below economic level It is this that restricts the large scale extension of electrification to the countryside While electricity is put to a wide variety of uses in the rural areas of the developed countries, in India as in other under-developed countries it has been so far applied only for a limited range of activities The small sized agricultural holdings and the low standard of living of the vast majority of the rural population with their limited capacity for savings have been the chief limiting factors So far it has been found that in India power has been applied to the following uses (1) domestic lighting, (2) pumping (lifting of water for purposes of irrigation and domestic consumption), (3) processing of agricultural products, (4) preservation of perishable products like fish and their processing, (5) cottage and small scale industries, (6) community radio sets, and, in a few cases, domestic radio sets

This limited application of power results in low level of power consumption and seasonal character of loads, especially in agriculture Consequently the load factor[14] is low and the available generating capacity is not fully utilised With a view to improving the load factor it is essential that different types of economic activities in each district requiring the use of power should be developed in a co-ordinated manner This object can be secured through a carefully formulated development programme for each area covering activities in different fields of development such as minor irrigation, service facilities for equipment, and village and small industries There should be forward planning for rural electrification over a period of two or more years ahead of taking up the work so that simultaneous action is initiated in other sectors also To facilitate the drawing up of definite schemes for utilisation of power as part of the district development plan, State Electricity Boards should indicate in advance to the district agencies concerned their estimates of the amount of power likely to be available for rural areas and small towns year by year It is desirable that where facilities for extension of electricity exist or are likely to be available, small committees should be set up to plan and advise on rural development programmes This programme should be worked out in sufficient detail and with the necessary phasing in terms of limited areas, such as a small town and its neighbourhood or a group of villages which have a common source of power and can, therefore, develop on the basis of well-conceived economic development programme These district plans should be implemented as part of the State plans so that development of rural electrification keeps in step with the programme for additional generating capacity

As regards supply, it may be pointed out that supply from a large grid has many advantages over that of a local generating set In India, rural electrification has made more headway in those States where large hydro-grids are operating The States of Madras, Punjab, Mysore and Kerala have, for instance, electrified more villages than most other States of the Indian Union But natural resources are not distributed evenly and, therefore, it may not be possible to develop grids to provide power to all places The distance from the centre of rural distribution to the point of supply on the grid is a factor of considerable influence Local generation may also be necessary because the grid system may be already overloaded and is unable to meet the additional demand of power In this connection it may be noted that there are not many large high-tension grids at present in the country and the few that do exist are unable to meet the increasing demands in their present areas of supply. It may be necessary, therefore, that in the early stages of rural electrification programme, local generation may have to be provided until such time as may be necessary for the completion of the big multipurpose river valley schemes and other power schemes

---

[14] Problems of load factor arise in an electricity undertaking because the demand for power fluctuates sharply during the day, the month and the year and electric energy cannot be stored in any significant quantities For instance, there is little demand for power during the early morning hours As householders begin turning on their appliances and as industries start their machineries load increases to a peak at about 11 a m and falls off again during the lunch hour when factories and other establishments switch off their machinery It usually rises again to an afternoon peak to fall off again during the night The load factor may be defined as the ratio of number of kilowatt hours supplied during a given period to the number that would have been supplied had the maximum demand been maintained throughout the period

Local generating sets may also be availed of in the initial stages as pilot schemes with a view to accustoming the local population with the use of electricity and enabling them to realise the manifold benefits of electricity As the demand for power is likely to be small in initial stages it may be advantageous to install small generating sets to provide supply for a group of villages When the load demand becomes larger the generating sets may be shifted to other areas and this centre may be connected with the nearest grid system In India several hundred such local sets are operating at present Under the Colombo Plan, Canada has provided 249 diesel sets of capacity ranging from 25 kW to 100 kW with the connected switch gear and accessories These have been installed in various States with the help of certain essential materials like supports, insulators, conductors, etc, supplied by the U S.A under the Technical Co-operation Mission programme However, it has to be noted that under the existing circumstances and the present state of technique, supply of power to rural areas by local generating diesel sets can only be used for short periods to build up loads, for the cost of power generated by such plants is generally higher than that of power generated in grids, and therefore rural consumers would not be encouraged to use power on any significant scale unless it is heavily subsidised

However, there are a number of isolated areas where small hydro-plants of 10 kW to 100 kW each can be set up at modest cost Small hydro units up to 100 kW capacity are now being manufactured in the country In the long run they will be more economical than diesel sets and relatively easy to maintain and will not involve foreign exchange for their procurement or operation A cell has been set up in the Central Water Power Commission for initiating and assisting in field surveys and in installation of such plants This aspect of power development is of special importance in hilly areas As regards steam driven power plants, experience in India has shown that steam plants of below 500 kW capacity would not be economical in operation As a matter of fact, in India there are few such plants of less than 1000 kW capacity operating to provide power for public supply The present practice in India is to install plants of 3000 kW and above Unless the present day techniques are improved considerably, which does not appear to be possible in the foreseeable future, economic considerations come in the way of establishing steam plants in rural areas in large numbers

Rural electrification projects may be conceived of and implemented in three ways (1) State or any other public authority may draw up schemes and implement them, covering the deficits incurred by such schemes from the general tax revenue of the State or by levying tax on urban consumers of power (2) People's institutions such as electric co-operatives may be specially organised for the purpose or the existing institutions such as *Panchayati Raj* institutions may be encouraged to implement the schemes, the State guaranteeing to meet deficits in the early stages of operation of the scheme (3) By undertaking to pay any outright subsidy or grant or by any other suitable method of payment, the State may encourage private undertakings (Public Limited Companies) to extend power to rural areas. All these methods of implementation may be followed depending on circumstances prevailing in a particular area

In this connection it is interesting to note what the United States Federal Government have done to popularise the use of electricity on farms The Federal Government's Rural Electrification Administration evolved a scheme by which power companies were financed to extend their operations to rural areas Without such assistance from Government, the companies were unwilling to extend their operations from a concentrated area of supply to unconnected and diffused receiving points Under the Rural Electrification Act, 1936, self-liquidating loans for a period not exceeding 25 years could be granted to persons or institutions for the purpose of construction and operation of generating plants, transmission lines and distribution lines, for the supply of electric energy to persons in rural areas not receiving central station services The Act also provides that loans may be granted for the building of required premises and the acquisition and installation of electrical and plumbing appliances and equipments All loans bear interest, the rate for any year being the average rate of interest paid by the Federal Government on its obligations not maturing for 10 or more years and issued in the preceding year The rate of interest thus charged comes to about 2 7 per cent The Reconstruction Finance Corporation has been authorised to make advances from 40 million dollars to 100 million dollars a year The Rural Electrification Administration has now been made a permanent body The number of farms served by electricity increased from 10 per cent in 1930 to almost 100 per cent in 1960

CHAPTER XIX

SOCIAL SERVICES

A review of Indian rural life would be incomplete without outlining the scope and developments achieved in the sphere of social services Social services would include education, medical care and public health, housing and other aspects of social welfare An increasing amount of expenditure is being devoted to providing various social services This has a wider objective of correcting the maladjustments in the present economic system and raising generally the levels of living of the community It is now widely recognised that expenditure incurred on social services is a direct investment in human capital which is a necessary requisite for speedy economic growth Expenditure on social services helps to remove social inertia, ignorance, indifference and apathy arising from them which subsequently prove bottlenecks in the rapid economic growth

Between 1950-51 to 1962-63 expenditure on education, medical care and public health has increased in Indian States from Rs 84 crores to about Rs 357 crores Table I gives the details of this expenditure for the States

EXTENSION OF SOCIAL SERVICES

There has been a radical change in the aims and scope of State policy in respect of social services since Independence Prior to this, the main concern of the Government was external defence and internal security In matters of positive economic and social reform, the key-note of policy was *laissez faire* The recurrence of famines in the nineteenth century, however, compelled the Government to undertake relief measures and programme of civil works on an extensive scale from time to time The general attitude of passivity towards economic reforms had to be shaken off on account of pressure of developments both within the country and abroad which followed the development of liberal thought The introduction of Diarchy in 1919 fur-

TABLE I

EXPENDITURE ON SOCIAL SERVICES INDIAN STATES 1950-64

(Rs crores)

Year	Education	Medical and Public Health	Total of Columns (2) and (3)
(1)	(2)	(3)	(4)
1950-51	58 0	26 1	84 1
1951-52	60 3	29 2	89 5
1952-53	68 9	31 8	100 7
1953-54	74 8	33.5	108 3
1954-55	86 3	37 5	123 8
1955-56	104 1	47 2	151 3
1956-57	113 4	47 5	160 9
1957-58	130 4	51 6	182 0
1958-59	147 2	57 9	205 1
1959-60	170 9	68 0	238 9
1960-61	195.4	80 8	276 2
1961-62	234 6	94 0	328 6
1962-63	250 5	106 8	357 3
1963-64 (R E)	276 2	113 1	389 3

Source *Reserve Bank of India Bulletin,* Vol VII, No 5, May, 1953, pp 383 and 392, Vol XIII, No 6, June, 1959, p 679, Vol XVII, No 4, April, 1963, p 453, and Vol XVIII, No 5, May, 1964, p 593

ther strengthened the popular demand for enlarging the nation-building activities Little, however, could be achieved since the popular ministries had no control over the finances The intricacy of allotment of revenue between the Centre and the Provinces was still another factor hindering wider extension of social services The political and administrative set-up of India till the attainment of Independence left little scope for the development of social services and progress recorded in this sphere was meagre relatively to the needs of the country and to that attained in other countries

Since the advent of Independence, the allocations for social services have increased progressively During the First and the Second Plan periods, the total expenditure on social services amounted to Rs 1,289 crores The outlay provided in the Third Plan is Rs 1,300 crores[1] Expenditure on vital services like education, health and housing is regarded as of a high priority and an attempt has been made in the three Five-Year Plans to implement, to the extent possible, the directives of the Constitution in this regard Limitations of resources, both internal and foreign, however, stand in the way of a more rapid advance Since 1951-52 whereas expenditure on development has gone up about four-fold that on social services has been about doubled

HEALTH SERVICES AND MEDICAL RELIEF

The control of contagious diseases and prevention of epidemics has attracted more attention than any other welfare activity because of their wide incidence and frequent recurrence in the country Medical services in our country were originally designed to protect the health of the army and foreign personnel serving in the country Till 1870 they were intended to improve, primarily, the health of the military and only secondarily that of the general population The heavy mortality in times of famines and the outbreak of plague, malaria, etc, necessitated more active measures at the beginning of the present century but almost till the Reforms of 1919 the efforts were confined, more or less, to the promotion of sanitation by making it one of the most important duties of the local bodies Progress was very slow even in this limited direction The Reforms of 1919 transferred the responsibility of the administration of local medical and public health to the Provincial Governments This considerably widened the field of activity, but the quality of work still suffered from the weak control of the Provincial authorities over the local bodies to whom the work was entrusted The result was that only a fraction of the ground could be covered by these provisions Even in urban areas where the improvements are more marked than in the rural parts, the level of health services continues to be low

---

[1] Report on the Third Five-Year Plan *Op cit*, pp 44 and 58

The public health service is highly inadequate considering the needs of the rural masses Table II gives the ratio of medical personnel to population available in India in 1960-61

TABLE II

RATIO OF MEDICAL FACILITIES TO POPULATION IN 1946 AND 1960 IN INDIA

	1946		1960	
	No	Ratio	No	Ratio
Hospital and Dispensaries	7,400	1 40,000	12,600	1 35,800
Beds	1,13,000	0 24 per 1,000	1,85,600	0 40 per 1,000
Doctors	47,524	1 6,300	88,000	1 4,850
Nurses	7,000	1 43,000	30,000	1 14,300
Primary Health Centres	Nil	Nil	2,800	1 70,000*

*Population which the existing institutions actually serve

Source Report of the Health Survey and Planning Committee (August, 1959 — October, 1961), Vol 1, Ministry of Health, Government of India (1962), p 72

In 1960-61, hospitals and dispensaries totalled 12,600 with 1,85,600 beds The number of beds per 1,000 population was 0.40 as against 2 per 1,000 recommended by the Bhore Committee[2] Besides, there were 2,800 primary health centres and 4,500 maternity and child welfare centres These can at best treat annually only a fraction of the population, the bulk are thus left to avail of whatever assistance, qualified or otherwise, they can secure locally In 1946, there was 1 doctor to 6,300 persons in India as compared with 1 doctor to 1,000 persons in the United Kingdom Even in 1960 the ratio of doctors to population remained at 1 4,850 in spite of the expansion in training facilities for doctors

Health services are concentrated largely in urban areas owing to lack of amenities and gainful employment in rural areas Nearly 75 per cent of doctors are in urban areas The findings of the National Sample Survey[3] are pertinent in this connection When the distribution of doctors between rural and urban India is considered the picture looks disconcerting While the vast majority of Indian people live in villages, the distribution of qualified doctors as between rural and urban India is just the inverse of the distribution of people as between these two sectors According to this study, there was one allopath doctor for each 45 villages, one homeopath doctor for each 36 villages and one ayurvedic doctor for each 21 villages The average distance of hospitals from sample villages was 13 8 kilometres (8 6 miles) as indicated by the twelfth round of the National Sample Survey[4] Specialised services at present are available in hospitals and polyclinics in metropolitan towns and large cities which are not easily accessible to the rural population on account of difficulties of communications and transport facilities in the rural areas Even in the existing Local Board dispensaries and such other centres, difficulties are felt in securing doctors to man them. The basic difficulty in extending health services lies in the lack of trained personnel Even the existing institutions did not have their full complement of personnel. Shortage of teachers in the medical colleges has persisted The number of teachers required during the Third Five-Year Plan is estimated at 2,600 against the original estimate of 2,000

---

[2] Report of the Health Survey and Development Committee, Vol II, Government of India (1946)

Health Programmes

In the Third Five-Year Plan an outlay of Rs 342 crores has been provided for different health programmes. About one-third of it is earmarked for the programme of urban and rural water supply and sanitation The overall target for the Third Five-Year Plan is the establishment of 2,200 additional primary health units, 2,000 more hospitals and dispensaries and 54,500 additional beds, raising the total number to 5,000 primary health units, 14,600 hospitals and dispensaries and 2,40,100 beds[5] The number of beds has gone up by 7,670 to 1,93,270 in 1961-62 and is estimated to have been about 2,02,000 in 1962-63[6] The number of medical colleges which was 30 in 1950-51 increased to 57 in 1960-61 and it is proposed to raise the number to 80 in the Third Five-Year Plan In 1962-63, the number of medical colleges increased to 71[7] Steps are being taken to augment the supply of teachers in medical colleges The number of dental colleges increased from 4 to 10 within the decade of the first two Plans. Annual admissions were almost doubled It is proposed to raise the number of dental colleges to 14 and annual admissions to 400 The number of annual admissions to medical colleges too was raised to 7,820 in 1962-63 as compared to 5,800 in 1960-61 and 2,500 towards the beginning of 1950-51 Maternity and child health centres are proposed to be increased from 4,500 in 1960-61 to 10,000 in 1965-66 The number of nurses has increased from 15,000 in 1950 to 27,000 in 1960 and the number of training institutions for nurses increased from 206 in 1951 to 270 in 1958[8] The number of training institutions for other nursing personnel like auxiliary-nurse-midwives, health visitors and *dais* increased from 229 in 1951 to 535 in 1958

---

[3] The National Sample Survey Tenth to Twelfth Round December, 1955-August, 1957—Report on Indian Villages (A Study of Some Social and Economic Aspects), Government of India (1961), pp 20-21

[4] *Ibid*, p 9

[5] Report on the Third Five-Year Plan, *Op cit*, p 653

Concerted programmes for sanitary reform, village planning and housing conditions are in their first stages over the major part of the rural India The provision of protected water supply and sanitary methods of excreta disposal is a basic requirement in the prevention of diseases and morbidity in the community which largely arises from water-borne and allied diseases Work on control of communicable diseases including malaria, filaria, tuberculosis, trachoma, smallpox, goitre, leprosy, etc, have been undertaken on a large scale in the Third Five-Year Plan. Malaria has been eradicated from vast areas under the National Malaria Eradication Scheme both in rural and urban areas About 183 million persons were tested under the B C G vaccination campaign and 64 million vaccinated Special emphasis is laid on eradicating smallpox during the Third Five-

---

[6] The Third Plan Mid-term Appraisal, *Op cit*, p 161

[7] *Ibid*

[8] Report of the Health Survey and Planning Committee (August, 1959 —October, 1961), Vol I, *Op cit*, p 67

Year Plan through vaccination campaigns A beginning with health insurance has been made by providing medical facilities for industrial workers under the Employees' State Insurance Scheme and for the Central government employees under the Contributory Health Service Scheme first introduced in Delhi In the sphere of nutrition, diet surveys were undertaken at the instance of the Indian Council of Medical Research The supply of wholesome milk is given increasing attention particularly in large cities About 1,100 rural and 549 urban family planning clinics were set up during the Second Plan During the first two years of the Third Five-Year Plan, 660 rural and 209 urban clinics were added, bringing the total number of clinics to 3,005 (2,039 rural and 966 urban) A total of 8,200 family planning clinics are proposed to be established by the end of the Third Plan.

EDUCATION

Education is in many ways the most important of social services It increases the capacity of the people to participate intelligently in public affairs Education is a vital element in the development of individuality, it is also an instrument for fostering and strengthening socially useful skills, habits and attitudes and creates bonds of common citizenship Education is an essential factor in achieving rapid economic development and technical progress and in creating a social order founded on the values of freedom, social justice and equality of opportunities The higher the standard of education, the better the results of other social services In 1950-51, only 19 2 million children in the age-group 6 to 11 were receiving primary education Provision of facilities for schooling of children in the age-groups 6 to 11 and 11 to 14 was available for 3 1 million and 1 2 million in the respective age-groups The growth of educational facilities since 1950-51 and the targets set for the Third Five-Year Plan are shown in Table III

Over the decade 1951-61, the number of students increased from 23 5 million to 43 5 million The increase in the number of pupils in the age-group 6-11 was 79 per cent, in the age-group 11-14, 102 per cent, and in the age-group 14-17, 139 per cent. The proportion of children in these groups attending

TABLE III

PROGRESS OF EDUCATION DURING THE FIVE-YEAR PLANS

Stage and Age-group	1950-51	1955-56	1960-61	1965-66 Targets
Primary (6-11)				
Enrolment (lakhs)	191 5	251 7	343 4	496 4
Percentage of the age-group	42 6	52 9	61 1	76 4
No of Primary Schools	2,09,671	2,78,135	3,36,000*	4,15,000
Middle (11-14)				
Enrolment (lakhs)	31 2	42 9	62 9	97 5
Percentage of the age-group	12 7	16 5	22 8	28 6
No of Middle Schools	13,596	21,730	41,000*	57,700
Secondary (14-17)				
Enrolment (lakhs)	12 2	18 8	29 1	45 6
Percentage of the age-group	5 3	7 8	11 5	15 6
No of Secondary Schools	7,288	10,838	16,988*	21,800
Total (6-17)				
Enrolment (lakhs)	234 9	313 4	435 4	639 5
Percentage of the age-group	25 4	32 1	39 9	50 1
Total No of Schools	2,30,555	3,10,703	3,93,988*	4,94,500

Source Report on the Third Five-Year Plan, *Op cit*, pp 574-575

*Third Five-Year Plan Progress Report 1961-62, Planning Commission, Government of India (1963), p 148

schools rose respectively from 43 to 61 per cent, from 13 to 23 per cent and from 5 to 12 per cent During the Third Five-Year Plan period, the total number of pupils at school is expected to go up by 20 4 million—15 3 million in the age-group 6-11, 3 5 million in the age-group 11-14 and 1 6 million in the age-group 14-17

There is however a glaring disparity in the percentage of enrolment of boys and girls In 1960-61, about 80 5 per cent of the boys in the age-group 6-11 were in primary schools as against about 40 4 per cent of the girls At the middle school stage, as against 34 per cent of the boys only about 11 per cent of the girls in the age-group 11-14 were at school At the secondary stage, girls constituted less than one-fifth of the total number attending schools. As a result, the number of qualified women available for the posts of teachers, nurses, *gram sevikas*, social education organisers, etc., is inadequate.

It will be seen from Table III, during the decade 1950-61, the number of schools increased by 71 per cent from 2,30,555 to 3,93,988, the increase in the number of primary schools was 60 per cent, in middle schools 200 per cent and in high schools 133 per cent.[9] In 1960-61, there were 5,000 *balwadis*. The number of children enrolled in pre-primary schools increased from 28,000 in 1950-51 to 75,000 in 1955-56 and is estimated to have gone up to 3 lakhs in 1960-61. Progress in basic education at the primary stage is reflected in the number of junior basic schools and senior basic schools. The number of junior basic schools almost doubled during the last decade. In 1960-61, their number was 64,000. The number of senior basic schools increased from 351 in 1950-51 to 14,000 in 1960-61.[10] The enrolment of boys and girls at primary and middle school stage increased to 464.3 lakhs in 1961-62.[11] Reorganisation of secondary education has mainly taken the form of conversion of high schools into higher secondary schools, establishment of multi-purpose schools providing for a variety of courses. The number of secondary educational institutions, including higher secondary schools and multi-purpose schools, increased from 16,988 in 1960-61 to 19,235 in 1961-62.[12] The total number of students enrolled in secondary schools in 1962-63 was 39.35 lakhs. In 1962-63, there were 54 universities and 1,283 arts, science and commerce colleges, the total enrolment in the latter being 10.60 lakhs. The proportion of students taking science courses increased from 33 per cent in 1955-56 to 34 per cent in 1960-61 and to 36 per cent in 1962-63.[13] The Third Plan envisages that of the increase of 4 lakh students at the university stage, about 60 per cent would be in science classes, bringing the percentage of students taking science courses to over 42 While facilities for education are, in general, less than adequate, those for women's education are even more unsatisfactory

---

[9] See Third Five-Year Plan Progress Report 1961-62, *Op. cit.*

[10] *Ibid.*

[11] The Third Plan Mid-term Appraisal, *Op. cit.*, p. 154.

[12] Third Five-Year Plan Progress Report 1961-62, *Op. cit.*

[13] The Third Plan Mid-term Appraisal, *Op. cit.*, pp. 155-156.

The Report of the Sargent Committee on Education (1944) visualised a national scheme suited to the minimum requirements of the country The estimated cost of the scheme at the end of 40 to 50 years when it was expected to be fully established, was Rs 313 crores, of which Rs 277 crores were to be drawn from public funds The inadequacy of the level of expenditure on education visualised by the Sargent Committee becomes obvious when it is compared with the actual expenditure of Rs 300 crores incurred in 1959-60, of which about 67 per cent came from Government Current programmes on education draw heavily upon the deliberations of the Secondary Education Commission established in 1954 and the University Education Commission in 1949

The outlay on education proposed in the Third Five-Year Plan is Rs 560 crores, which is 7 per cent of the total Plan outlay Besides this, Rs 126 crores are provided under medical education, vocational training and agricultural education The Centre has been financing education programme to an increasing extent since the beginning of the First Five-Year Plan, its share having increased from 4 6 per cent in 1950-51 to 11 9 per cent in 1959-60 School buildings are being expanded and new constructions taken in hand The scheme of compulsory education has been introduced in several States and in 1958-59, 57,000 villages and about 1,200 towns were covered under this scheme In more than 10 States the programme of mid-day meals for children of primary schools has been launched with the assistance of international and foreign agencies Per capita expenditure on education in India steadily increased from Rs 3 18 in 1950-51 to Rs 6 32 in 1958-59, indicating the Government's determination to expand educational facilities as a necessary instrument of development planning

The All-India Education Survey conducted by the Union Ministry of Education during 1957-59 revealed that in 1957, out of a total number of 8 4 lakhs of rural inhabitations with a population of 27 96 crores, 2 4 lakhs or 29 per cent of the rural inhabitations with a population of 4 72 crores or 17 per cent of the total were not served by any school [14] In some States the proportions were very much higher The Constitution envisaged the provision of free, universal and compulsory education for children up to the age of 14 years by 1961 This objective has not materialised Meanwhile, it has been urged that as a first step, facilities should be created for the education of all children in the age-group 6-11, to be followed by extension of education for the entire age-group 11-14 during the Fourth and the Fifth Plans In spite of the directives of the Constitution, only 60 per cent of the children in the age-group 6-14 — 76 per cent of the children in the age-group 6-11 and 29 per cent of them in the age-group 11-14 — would be provided such education by 1965-66. This percentage would be only 16 for the secondary stage, *i e*, 14-17 age-group From this the magnitude of the task of meeting the directives would be clear The Third Five-Year Plan envisages an increase in the number of primary schools to 4,15,000, of middle schools to 57,700, and of high schools to 21,800 Institutes of Technology are expanded to increase our 'know-how' and build up a large number of technocrats required for public enterprises Differences in the levels of schooling facilities between the States will be narrowed to some extent but will still continue to be quite considerable An immediate problem is one of removing the wastage which exceeds 50 per cent at the primary stage [15] In considering the programmes for education, it has to be borne in mind that the problem is not merely one of multiplying the facilities along traditional lines, but of diversifying the system and adapting it to the new needs of a developing economy

SOCIAL EDUCATION

'Social education' denotes an all-inclusive programme of community uplift through community action The programme under the new approach of social education embodies mainly five related stages of work which includes literacy, knowledge of the rules of health and hygiene, training for the improvement of the economic status of adults, a sense of citizenship with an adequate consciousness of rights and duties, and healthy forms of recreation suited to the needs of the community and the individual. This programme is supported through libraries opened with State help supplemented by locally raised resources. The object of the entire programme is to correlate the relevant knowledge at every stage with a gainful activity and the social and economic needs of the villagers.

---

[14] Report on the Third Five-Year Plan, *Op cit*, p 574

[15] Report on the Second Five-Year Plan, *Op cit*, p 503

The work in the field of social education has been mostly confined to literacy and to some extent recreation. The literacy percentage which was 8.3 in 1931 increased to about 24 per cent in 1961. The serious disparity in literacy between men (34.4 per cent) and women (12.9 per cent) and between the urban population (46.9 per cent) and the rural population (19 per cent) constitutes a special problem in social education.[16] The 1961 Census mentions that the progress of general literacy has been sluggish throughout the country. It has increased at an average of 0.7 per cent per year for the general population, 0.9 for males and 0.5 for females. With the introduction of *Panchayati Raj* at the district and block levels, it is imperative that a substantial proportion of adult population become capable of reading and writing. Most of the post-literacy work is done through libraries, though due to dearth of literature, the library movement has not made much headway particularly in the villages. Of late, the importance of recreation and cultural activities in programmes of social education has been increasingly recognised. Existing forms of folk art like dance, drama, puppet shows, *bhajans, kirtans,* fairs and festivals have been used, but without any systematic attempt to develop and fully exploit their potentialities as mass media of education and extension. They should increasingly be utilised as communication channels for developing a progressive outlook and the growth of a sense of shared citizenship. Modern means of mass education like the film and the radio have attracted attention but have not been effectively used partly as they are costly media. In a few institutions, attempts have been made to improve the economic conditions of the villagers by teaching them crafts and adoption of improved practices in agriculture. All-round social education work has been done by some of these basic institutions, besides co-operatives which have also been used as an agency for social education In the community development blocks social education organisers are assigned an important role of educating the villagers in the ideology of community projects and national extension

---

[16] Census of India, Paper No. 1 of 1962, 1961 Census—Final Population Totals, Government of India (1962), p. 331.

For adapting and extending the education system in keeping with the requirements of a planned economy, a heavy responsibility lies on the Central, State and Local Governments The methods and techniques of teaching need improvement The scales of pay of teachers at all stages require to be improved Technical and vocational training facilities call for urgent expansion. The colleges and universities need larger funds for staff and equipment. The resources available for all these purposes are limited It is inevitable to an extent that in the early stages of planning, productive investment gets a priority over social development, including education It has, nevertheless, to be borne in mind that the education and training of men and women is the very basis of economic and social progress Developmental planning aims, in the last analysis, at making life richer and ampler for the individual, and it is only a truism to say that investment in education and the improvement of the intellectual and moral standards of the mass of citizens is, in a vital sense, the most productive of all investments.

PART V

CHAPTER XX

THE INDIAN RURAL PROBLEM — A REVIEW

The facts of the rural problem in India in its various aspects have been set out in Part I. In Parts II to IV a review has been attempted of the evolution of agricultural policy and of the legislative measures and other developments in agrarian reform over the last few decades. In this concluding Part, it is proposed to bring together the essential points of a connected approach to the Indian rural problem with reference particularly to the developmental effort envisaged in our Plans.

THE RURAL ECONOMY

The crucial question is whether on a review of recent developments we could say confidently that the Indian rural problem is assuredly on the way to being solved. Is agriculture in a position effectively to make its due contribution to the development of the economy? Has rural poverty declined? Is the agrarian structure more balanced than before? Do we, in other words, discern clearly the signs of an accelerating agricultural revolution that could be relied on to produce larger output and better standards of living for the growing population?

It is obvious that few would answer these questions in clear affirmatives. A great deal has been done over the last decade and more to activate the rural sector. Large, new programmes of irrigation, seed multiplication and distribution, co-operative credit and marketing, community development and agricultural extension have been put through. Indian agriculture has responded noticeably, but not yet adequately, to these expansionary impulses. Greater and more concentrated effort is needed before the response can be adequate to the growing needs.

We may start with a broad assessment of the performance of agriculture as we see it at the present juncture. Agricultural production has increased by about 40 per cent since the commencement of the First Five-Year Plan, and the inputs into agriculture are being continually stepped up The experience of the first two years of the Third Plan has, however, been somewhat disturbing, and the prospects of reaching the agricultural targets set for the Plan seem remote. This has caused a great deal of concern and has led to considerable rethinking both at the Centre and in the States The underlying trend of agricultural production is, undoubtedly, upward, and it appears also that the downward fluctuations in crops because of adverse monsoons have tended to diminish Yet, it is evident that far more impressive results are needed if the economy is to grow at high enough rates Have our agricultural programmes been soundly conceived? Are our agricultural policies appropriate to the needs of the situation? Are the implementing agencies in the field really in a position to secure results? The fact that questions like these are being asked earnestly in the Third Plan period, after so much of effort and resources have gone into improving the production and other facilities needed for securing a break-through in agriculture, illustrates once again that this is not a field in which victories can be easily won or consolidated[1] A striking feature of the Indian rural economy is the still increasing absolute numbers dependent on agriculture and the undiminished relative importance of this sector in the economy as a whole Of the total population of 439 million in 1961, 82 per cent lived in rural areas Agriculture is still the mainstay of life for 7 out of every 10 in the population Some 45 to 48 per cent of India's national income is derived from agriculture and allied occupations It is obvious that economic prosperity and planning for development in a country like India must concentrate on improving the technical efficiency of agriculture and raising the standard of living of the farmer, and, better results all-round are needed quickly

The factors responsible for the prolonged stagnancy of Indian agriculture have been stated in the earlier chapters Until

[1] *Cf* "If careful observers of the Indian economy agree on one thing respecting agriculture, it is that the farm output is the most problematical element in the nation's whole near-term development prospect If they agree on a second thing, it is that the problem of achieving an adequate expansion in farm output is exceptionally complex." John P Lewis Quiet Crisis in India (1962), p 164

recently, the entire socio-economic climate was unsuited to high levels of investment or to adoption of new production techniques. Even now, agricultural practices continue for the most part along old traditional lines, which cannot yield enough food and raw materials to support a more progressive or diversified economic structure The rural economy — and so the Indian economy as a whole — is still characterised by low productivity, poor techniques and unprogressive practices, a high degree of under-employment and absolute inadequacy of incomes and living standards

RISING POPULATION GROWTH

The problem has been made more difficult by the recent acceleration of population growth Over the three decades covering 1891-1921, India's population increased by only 5 per cent — so deadly were the effects of famines and epidemics Between 1921 and 1951, the population increase was 44 per cent, which gives an annual compound rate of growth of a little over 1 per cent The first two Five-Year Plans assumed a rate of growth of 1 25 per cent per annum for the period 1951-61 and visualized only a small acceleration for later periods The Census Report of 1951 predicted, on certain assumptions, a total population of 408 million in 1961, 458 million in 1971 and 527 million in 1981 and warned of the growing gap between the demand and supply of food and other agricultural products[2]

The study of demographic trends by Coale and Hoover,[3] published in 1958, brought out an even more alarming situation. If current fertility rates remained unchanged, the population of India would be, according to this study, 424 million in 1961, 532 million in 1971 and over 600 million by 1976 If fertility rates declined by a total of 50 per cent between 1966 and 1981, India's population would touch the 600 million mark around 1980. Actually, according to the Census of 1961, the population of India was 439 million, which is higher than the level indicated even by the "high" projection by Coale and Hoover, and the current annual addition to population is about 10 million[4] These are colossal figures, and indicate how stupendous the problem of securing rising standards of per capita incomes is Not only in India, but elsewhere too it has been found that death rates can be brought down quickly with improved medical facilities, the control of epidemics and the like, but so long as birth rates do not fall, the population problem gets aggravated in the process There is considerable literature purporting to show that the recent "population explosion" is a menace that can engulf humanity before long There are, of course, ever-widening possibilities for increasing production and welfare through greater use of science and technology, but on any rational view, control of population growth has to be an essential and integral part of any planned effort to improve and safeguard prosperity and welfare This is particularly so because limitation of births and family planning come up against stubborn resistance from psychological and sociological complexes

---

[2] Census of India, 1951, Volume I, India, Part I-A — Report (1953), pp 192-194

[3] Population Growth and Economic Development in Low Income Countries A Case Study of India's Prospects (1958).

The point to note for the immediate future is that the average annual increase of 3 per cent per annum in agricultural production that has been achieved in recent years is quite inadequate in relation to the needs of the increasing population at higher standards of living The attainment of "self-sufficiency" in foodgrains has been regarded as a policy objective in India for almost two decades now Yet, barring a brief period during the First-Five Year Plan, the domestic output of foodgrains has had to be supplemented by imports on a continuing basis The output of other agricultural products, such as, cotton, oilseeds — and even sugar from time to time — has been inadequate The shortage of cotton has necessitated imports involving substantial outlays of foreign exchange badly needed for other purposes The failure of oilseeds production to keep pace with rapid expansion of domestic demand for oils has reduced export earnings Altogether, deficiencies in agriculture have limited consumption, exports as well as investment Recent experience has reinforced the need both for larger effort and for better results in agriculture It is no exaggeration to say that the real test of planned effort is in this vital sphere No one could deny the importance and urgency of industrial development in India, but the process of cumulative and self-sustaining growth envisaged in our Plans cannot go forward if agriculture lags behind "Planning from below" is not merely a political or administrative concept, it is and has to be worked as an economic concept

---

[4] *Cf* "The Third Five-Year Plan has to cope with an *addition* to the population roughly equal to the *total* population of Great Britain" W B Reddaway The Development of the Indian Economy (1962), p 20

THE RURAL SOCIAL STRUCTURE

The economic concept has, in turn, to be related to the rural social structure Social motivation in the rural areas has to be altered to the requirements of economic progress, and this can be done only to the extent that the complexities of the rural social structure are understood and the potentially dynamic elements in it located and acted upon

Indian rural society is not homogeneous Apart from the economic differentiation arising from land ownership, tenancy or the landless status, there are the socio-economic gradations associated with castes The result is that the village community rarely acts as one body The higher classes do not easily associate themselves with those lower down in the social scale, and these latter are rarely in a position to break the barriers of custom and tradition Economic and social co-operation tends, therefore, to be confined within the same caste For instance, in Bhuvel, a village in the old Baroda State,[5] there were some eighteen castes, and persons of higher castes did not inter-dine with those of lower castes. Some castes did not permit inter-dining even with members of higher castes Rules regarding inter-marriage were even more rigid. The situation has certainly changed in recent years, especially among the comparatively well-to-do and the educated. But, even to this day, the caste structure and attitudes persist, and untouchability, though abolished by law, has not disappeared in fact Without a new social objective backed by leadership such as would interest all rural classes, it is most difficult to get the right response from the rural population. The Gandhian approach to political economic and social problems laid great stress on these aspects, and Vinoba Bhave has been trying for some years past to resuscitate and strengthen this approach. There is, however, no clear link or bridge between these efforts and the programmes of development sponsored by official agencies

---

[5] See Bhuvel A Socio-Economic Survey of a Village, Indian Society of Agricultural Economics (1949), pp 107-117

It is difficult to indicate the changes that have taken place over a period in the rural class structure, particularly because of the changes in classification adopted in the successive censuses In terms of the 1961 Census classification, the number of cultivators in India increased from 69 8 million in 1951 to 99 5 million in 1961 — an increase of about 43 per cent On the other hand, the number of agricultural labourers went up from 27 5 million in 1951 to 31 5 million in 1961 — an increase of only 14 6 per cent Or, to look at the same relationship in another way, between 1951 and 1961 the proportion of cultivators to total workers increased from 50 per cent to 52 8 per cent, while the proportion of agricultural labourers declined from 19 7 per cent to 16 7 per cent It is doubtful if this change is real or just classificatory. One factor in the increase in the proportion of cultivators and, correspondingly, the shift from the category of agricultural labourers was the inclusion in the 1961 classification of children up to the age of fourteen and female helpers in the former category Nevertheless, as the census report puts it, "by and large, in the agricultural field whether one goes by the definition of 'work', on the basis of 'income' or 'time disposition', or the more intangible consideration of 'status' or prestige which possession of a parcel of land, however small, gives, the scales are heavily weighted in favour of cultivators "[6]

The cultivator-households are not all of equal social or economic strength According to the eighth round of the National Sample Survey (1954-55), a little over one-fifth of rural households (23 09 per cent) owned no land About one-fourth of the households had a small parcel of land less than one acre in area A little less than half of the households had thus either no land or owned less than one acre; their aggregate share was only 1 37 per cent of the total land owned by rural households About 60 per cent of the households cultivated less than 5 acres each and their share came to 15 44 per cent of the area At the upper end, about one-eighth (12 8 per cent) of the households had more than 10 acres each covering about two-thirds of the whole area The top one per cent of the households owned more than 40 acres each, accounting for one-fifth of the area[7] By 1959-60, the relative percentage of households and area in large (over 15 acres) and medium (5-15 acres) sized holdings had slightly declined. The decline was higher in holdings with 50 acres and more As against this, the relative percentage of households and area had increased in small sized holdings Nearly 63 per cent of the households cultivating less than 5 acres each accounted for 18 88 per cent of the area[8]

---

[6] Census of India, Paper No 1 of 1962, 1961 Census—Final Population Totals, *Op cit*, p 439

Apart from cultivators, that is, owners or tenants, and agricultural labourers, there are in the rural society (a) rent receivers, (b) traders and trader-moneylenders, (c) village artisans and craftsmen and (d) the so-called elite, that is, village officials, teachers and priests It is, of course, not to be expected that all these classes can be found in all villages, but the categories mentioned can be regarded as the main recognizable elements in Indian rural society

Both economically and socially the cultivators rank higher than landless labourers The number of traders or trader-moneylenders is always relatively small, but their social influence is often considerable Among the village artisans and craftsmen, those with special skills enjoy a relatively high economic and social status, but the others are on par with the poor agriculturists, and some might even be worse off, both economically and socially The village officials in charge of important administrative functions often regard themselves as a class apart, their roots are not in the village and their ambitions are often elsewhere. Neither the teachers nor the priests are in a position to offer leadership under present circumstances Undoubtedly the small cultivator aims at becoming a bigger one, and some of the bigger ones have adopted improved tools and implements and agricultural practices The trading and moneylending classes find ways of introducing new commodities, and to an extent new ideas into the rural areas The increase in rural-urban mobility over the last three or four decades has also broken down the isolation of the village and one cannot fail to notice a greater degree of economic motivation all over the rural areas Yet it is evident that the traditional social patterns and modes of thought persist, the strength of progressive forces within the rural community is at best weak, and a stimulus rightly oriented towards public goals has to come from outside.

---

[7] The National Sample Survey Eighth Round July, 1954 — March, 1955, Number 10—First Report on Land Holdings, Rural Sector, Cabinet Secretariat, Government of India (1958), Foreword, p iv

[8] The National Sample Survey Sixteenth Round, Report No 122—Tables with Notes on Agricultural Holdings in Rural India, Cabinet Secretariat, Government of India (1962)

REFORM OF THE LAND SYSTEM

A major thesis of this book has been that a far-reaching overhaul of the land system is essential for reorganising rural society on a more effective and equitable basis Considerable progress has been made in this direction over the last ten or fifteen years, but some really difficult problems still remain to be tackled The broad lines of the reform to be put through are no longer under dispute The first task, namely, the abolition of intermediary tenures has been completed Simultaneously rents payable by tenants have been regulated and measures have been taken to give security of tenure to the cultivator The imposition of a ceiling on land holdings has been accepted in principle Almost all States have passed legislation on the subject, and in some States sizable surplus lands have been taken over This part of the land reform programme has, however, encountered difficulties, partly because of the practical problems of redistribution and resettlement, but partly also because it is not clear how the claims of social justice and of efficient production are to be balanced The implementation of the laws passed in this regard has been slow and various devices have been employed by land holders to evade the ceiling It was comparatively easy to dislodge the old, functionless intermediaries from their position, but the problem becomes difficult when it comes to dealing with large or medium farmers The conferment of better rights on tenants led immediately to large scale evictions or "voluntary surrenders" No clear view has yet emerged on how far and within what limits a landlord can exercise the right to resume land for personal cultivation The Planning Commission has emphasised in its recent reports the need to complete this programme as early as possible, since the transition has already lasted too long The recent report giving the mid-term appraisal for the Third Plan points out that failures in implementation have tended to take away some part of the benefits of the progressive land reform legislation which has been undertaken[9]

The problem links up with the view the community takes of the ultimate pattern of land ownership and land use Theoretically, several patterns can be thought of, but in practical terms there is no alternative in our conditions to a system of peasant proprietorship supplemented by co-operative organisation to assist the farmer at various points There is force in the argument that creation of peasant proprietorship will only perpetuate an inefficient land use system, the small cultivator functioning in isolation will have neither the means nor the technical know-how required to increase the productivity of his holdings There is little doubt that a mere change in the land system will not by itself revolutionize agriculture, land reforms are a necessary but not a sufficient condition for the transformation that is desired The farmer must be placed in a position in which he has the incentive to work and to earn more, but he must also be aided by suitable co-operative and governmental agencies

There has been considerable progress along these lines as well in recent years Steps have been taken to institutionalize rural credit, to link up credit with marketing and to make available to the farmer through the national extension service and other governmental agencies knowledge of improved techniques and practices. The progress made is, however, not adequate and doubts have been expressed whether the benefits of all these measures have at all reached the small farmers who constitute the bulk of the agricultural population Co-operative farming, which would combine the benefits of individual ownership and of an efficient pooling of resources, has made little headway The pilot projects in co-operative farming initiated in pursuance of the programme envisaged in the Third Plan seem to have as yet no more than symbolic significance

---

9 The Third Plan Mid-term Appraisal, *Op cit*, p 101

POLICY FOR DEVELOPMENT

In the formulation of policy for rural development two points need special emphasis First, it must be borne in mind that developments in the rural sector have to be linked closely with those in the rest of the economy, a compartmentalised approach cannot but fail Second, the economic and social problems of the rural population must be viewed together and the programmes of reform or reconstruction to be put through must be synthesized both in respect of the underlying thinking and of actual execution

The growing realisation in the country of the importance of agriculture and the need to improve the living standards of the vast mass of the people working in the rural areas has led some thinkers and social workers to postulate a basic conflict between the interests of agriculture or of rural society as such and the growth of industry or the prosperity of the urban population This is the genesis of the "back to the village" movement, ideas of village self-sufficiency, the distrust of modern industry, and the attribution of some inherent merit in smallness of scale In reality there is no such conflict between agriculture and industry or between the rural and the urban areas The two are essentially complementary and although the rate of growth in the two sectors cannot always be the same, and the opportunities for earning large incomes and accumulating wealth are bound to be larger in the more rapidly developing industrial sector, neither agriculture nor industry can achieve continuous progress except on the basis of mutual interdependence Increased agricultural production requires large inputs coming from the industrial sector The latter requires a continually increasing supply of raw materials The demand for food grows rapidly with urbanisation and the diversification of the employment pattern As new industries develop, the demands for power, for transport and communications and for social services go up also These in turn benefit the rural sector by creating employment for the surplus labour force which at present presses so heavily on the land. The stimulus of a rising demand for the products of agriculture is a condition precedent for a progressive rise in rural productivity and incomes. The process of economic growth tends, and should tend, to reduce the glaring contrast that we have today between living conditions in the rural areas and those in (parts of) the urban areas

The need for an integrated approach to the economic and social problems of the rural population is too obvious to need any great stressing The experience of rural reform and reconstruction, not only in India but in many other countries, has demonstrated the need for such an approach. In this connection, the following quotation from the American Year Book (1940) entitled "Farmers in a Changing World" is of interest

> "Rural sociology has as its primary aim the well-being of the farm population It originated as a recognized discipline in teaching and research less than 25 years ago as a part of the general impulse to improve agriculture technologically, economically and socially Since then it has developed quite an elaborate body of research findings, but it has not yet brought to bear the full impact of available knowledge either from general sociology or from studies made in fields other than agriculture Owing to the fact that social causes are complex and sometimes deeply laid in the past history of social institutions, recognition of the existence of problems is the necessary first step in their solution. It is the function of sociology, therefore, to reveal problems as well as to assist in solving them The roots of some of our most distressing agricultural problems are in part social, in part psychological and in part cultural"[10]

Policy in the field of agriculture, it is recognised, must have three main elements Firstly, it must aim at an enlargement of economic and social overheads like irrigation, power, roads, facilities for research and extension Secondly, it must aim at improving the wherewithals of production which the farmer himself has to provide This necessitates well-organised supply of seed, fertilizers and credit and marketing facilities. Thirdly, the unit of farm operation and management has to be progressively en-

---

10 Farmers in a Changing World, United States Department of Agriculture (1940), p 1043

larged This is the central problem in the reform of the land system Only with simultaneous development along all these lines and with co-ordinated effort to develop the economy as a whole can programmes for raising incomes and improving the conditions of living in the rural areas be carried through successfully

Back of all this is the problem of the adoption of new techniques and practices by the rural population, and this is a function of the level of education, general and specialized, that can be achieved quickly in the rural areas Education is not merely schooling, it includes "learning by doing" in various day-to-day activities The spread of education, of co-operative activity and of local self-governing institutions are thus parts of the process of rural development In this process, the Centre and State governments have an important role On the Centre devolves the responsibility of formulating broad policies and providing the necessary technical advice and financial assistance Implementation rests with the States These latter have in turn to mobilise local effort and local participation through village panchayats and similar local bodies It is only when each link in the chain functions effectively that the programmes of development and of amelioration can be implemented with the greatest advantage both in economic and in social terms

CHAPTER XXI

OBJECTIVES, TECHNIQUES AND ACHIEVEMENTS OF INDIA'S PLANS

The need for an integrated approach to the problems of rural life and, indeed, to economic development in all its aspects is now well recognized. Such an approach is the very corner-stone of India's successive five-year plans. The aim of this chapter is to set forth briefly the objectives and techniques of these plans, to assess their achievements in relation especially to agriculture, and to indicate the tasks that lie ahead The acceptance of the need for an integrated approach to developmental problems is a step in advance, but it must be emphasised that its effective translation into policies, programmes and results is beset with many difficulties

OBJECTIVES

In broad terms the principal objective of all developmental planning is the raising of living standards for the people It is when one seeks to give concrete content to this broad idea that difficult choices have to be made. Should the aim be to maximise the rate of growth of the economy over a period or should it be to secure an early and substantial increase in consumption? In what proportions should the resources available for investment be distributed between agriculture, industry, transport, power, social services, etc ? To what extent should the need for maximising employment opportunities in the short run influence decisions regarding choice of production technique? What, again, should be the weight to be attached to social considerations, such as reduction of inequalities or diffusion of economic power, if these imply some slowing down of the rate of growth of production? Economic development is not a process merely of increasing the output of material goods; there are wider social objectives, which are not merely means but also, to an extent, ends in themselves Yet, equality and social justice have also to have an economic content The short answer one can give to such questions is that the success of a plan depends greatly on whether it has succeeded in maintaining the right balance between these diverse considerations[1]

TYPES OF PLANNING

Even in highly industrialised countries, increasing emphasis is being placed on achieving higher rates of growth Most of them utilise for this purpose the device of what they call "indicative" planning. Governments and representatives of private business and industry keep an eye constantly on the overall trends in the economy and endeavour to plan their courses of action with a view to certain overall targets Such "indicative" planning has no "sanctions' behind it, but the common viewing of trends and the formulation jointly of targets to be achieved has a stimulating effect all-round and gives to the economy a sense of direction Economic planning in developing countries has an indicative aspect, but it has necessarily to go much beyond the statistical projections and broad directions associated with such planning.

The U S S R., most of Eastern Europe and China have adopted an authoritarian, centralised type of planning which leaves little room for private enterprise and makes a one-party controlled governmental machine primarily responsible for the step-up in investment and the transformation of the economic system along the lines desired. This type of planning could, under certain circumstances, be very efficient, but it entails a sacrifice of certain basic values It is significant that some of these centrally planned economies are now turning towards decentralisation and restoration of the market mechanism.

The approach of India's plans is governed by the democratic tenets of the Constitution and the Directive Principles of State Policy. In this approach, the State has an important role. It undertakes public investment programmes covering the key sectors of the economy The public and the private sectors, however, continue to grow and function side by side. While the State exercises wide powers of control and regulation, its role in the last analysis is educational and promotional rather than dictatorial The economic system to be evolved over a period is to be of a "mixed" type with scope for private, co-operative and State-owned, State-operated enterprises'

---

[1] Report on the First-Five Year Plan, *Op cit*, p 28

PREAMBLE OF THE CONSTITUTION

India's Constitution guarantees to all its citizens the fundamental rights of equality before law, equality of opportunity in matters of public employment, the right to freedom of speech, non-discrimination on grounds of religion, race, caste, sex, or place of birth, and right to property under the law, among others. All laws in force should conform to these fundamental rights[2] Apart from these fundamental rights, the Constitution also lays down certain Directive Principles of State Policy, which are the foundation for the pattern of development planning in the country.

DIRECTIVE PRINCIPLES OF STATE POLICY[3]

The Directive Principles lay down that the State shall strive to promote the welfare of the people by securing and protecting, as effectively as it may, a social order in which social, economic and political justice shall inform all the institutions of national life The State shall in particular direct its policy towards securing that (a) the citizens, men and women equally, have the right to an adequate means of livelihood, (b) the ownership and control of the material resources of the community are so distributed as best to subserve the common good, (c) the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment, (d) there is equal pay for equal work for both men and women, (e) the health and strength of workers, men and women, and the tender age of children are not abused and citizens are not forced by economic necessity to enter avocations unsuited to their age or strength, (f) childhood and youth are protected against exploitation and against moral and material abandonment, (g) the State shall take steps to organise village panchayats and endow them with such powers and authority, as may be necessary, to enable them to function as units of self-government, (h) the State shall, within the limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement and in other cases of undeserved want Besides, provisions for securing just and humane conditions of work and for protection of vulnerable classes in society have been included These statements are indicative of the social philosophy of democratic government in India India's plans have to fit into this system of economic and social ends

---

[2] The Constitution of India, Government of India (1949), Part III, p. 7

[3] *Ibid*, pp 23-25

THE PLANNING COMMISSION

In view of the provisions of the Constitution and the Directive Principles mentioned above, the Planning Commission, set up early in 1950, has from the outset been regarded as a continuing body with tasks going much beyond the formulation of a development programme for the next few years ahead The Commission is required by its terms of reference to make an assessment of the country's resources and needs, to work out priorities and to indicate the stages by which the development process should be carried through, to present plans of development for particular periods, to review from time to time the progress being achieved in various directions and to make recommendations to Government on problems and policies relevant to the pursuit of rapid and balanced economic development Over the last fourteen years the Commission has, besides formulating the three five-year plans, undertaken or promoted a number of studies on the immediate as well as longer run problems of the Indian economy, including problems of agricultural production and reforms, co-operation and extension work The Commisson is an advisory body, with no executive responsibilities, but it functions closely with the Central Government and the States, and plays an important role in bringing about a co-ordination of policies Above all its task is to plan ahead and devote continuous thought to the emerging economic and social trends and the strategy of dealing with them so as to secure the best results in terms of the ends in view and the means available

PERSPECTIVE OF PLANS

Each five-year plan has thus to be related to a longer term perspective. The First Five-Year Plan (1951-56) has often been called a rationalization and co-ordination of a number of projects and schemes that had been begun or were about to begin in different parts of the country in pursuance of what were called the post-war reconstruction programmes. To an extent, this was so. At the same time, the First Plan report gave a systematic exposition of the crucial elements in developments and defined the objectives, techniques and priorities of democratic development, it also put forward a broad picture of the rates of growth of national income, savings and investment to be achieved over a period of twenty-five years or so and enunciated policies for institutional and structural change aimed at making the economy more progressive.[4]

The increase in national income over the First Plan period was much larger (18 per cent) than was initially estimated (11 per cent). From this starting point and on the basis of the other data then available, the Second Plan (1956-61) postulated an average annual rate of growth of 5 per cent in national output. It set the goal of a doubling of per capita incomes by 1973-74. The achievement of this goal, it was estimated, would need a stepping up of investment from about 7.3 per cent of the national income in the First Plan period, to 10.7 per cent in the Second Plan, 13.7 per cent in the Third, 16 per cent in the Fourth and 17 per cent in the Fifth Plan.

Over the decade (1951-61), national income in real terms increased by some 42 per cent, but population had meanwhile increased by 22 per cent, the increase in national income per capita was thus less than 20 per cent. The Third Plan presents projections for further growth adjusted, *inter alia,* to the higher rates of population increase. The conclusion that emerges from these is that the proportion of investment to national income needed for each successive plan would have to be raised beyond the levels envisaged earlier.

These overall projections or forecasts of the aggregates involved are only a framework. They are a useful starting point, but the determining element in the success of plans is the scale and inter-relation between sector-wise and industry-wise investments and outputs realised, in each plan period The techniques of analysis and statistical presentation needed for working out these detailed aspects have improved over the years since, especially, the end of the First Plan The experience of the Second and Third Plans shows, however, that these techniques are still far from reliable — to an extent, they are always so — and that a great deal of flexibility in planning and close attention at each stage to effective implementation have always to be regarded as essential ingredients of the strategy of development. Perhaps, in no sector of the economy is this illustrated better than in agriculture

---

[4] See Report on the First Five-Year Plan, *Op. cit.*, pp. 20-23 and 28-45.

AGRICULTURE IN THE FIRST TWO PLANS

The First Plan accorded the highest priority to agriculture Of the total outlay of about Rs 2,000 crores in the public sector, about 31 per cent was allocated to agriculture, irrigation and community development

Table I shows the trend of agricultural production over the period of the First Plan

The output of foodgrains in 1955-56 was about 4 million tons larger than the Plan had envisaged. The output of cotton and jute also showed substantial increases, although the achievement in respect of these as well as sugarcane was below targets. The index of agricultural production as a whole showed an increase of 22 per cent Part of the increase in agricultural production was due to good monsoons and only part could be attributed to the investments made during the Plan period Nevertheless, the results achieved were significant, both in themselves and for the confidence they generated in the possibility for further advance

The Second Five-Year Plan was designed to secure a more rapid rate of growth in the economy It aimed therefore at a more rapid development of industries, mining, power and transport than had been possible hitherto There was a relative shift in priorities, the allocation of public sector outlay for agriculture and irrigation being 21 per cent in the Second Plan as compared

TABLE I

AGRICULTURAL PRODUCTION FIRST FIVE-YEAR PLAN

(In million long tons, unless otherwise stated)

	Production						Additional Production in 1955-56 over	First Plan Target	
	Base Year 1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1950-51	Additional	Total
Rice	20.9	21.4	23.0	28.2	25.1	27.1	6.2	6.3	27.2
Wheat	6.6	6.2	7.4	7.9	8.9	8.6	2.0	1.9	8.5
Total Cereals	43.7	44.3	49.5	58.3	56.4	54.9	11.2	8.8	52.5
Pulses	8.5	8.4	9.1	10.3	10.9	10.9	2.4	0.6	9.1
Total Foodgrains	52.2	52.7	58.6	68.6	67.2	65.8	13.6	9.4	61.6
Oilseeds	5.1	5.0	4.7	5.3	6.3	5.6	0.5	0.4	5.5
Sugarcane (*gur*)	5.6	6.1	5.0	4.4	5.8	6.0	0.4	0.7	6.3
Cotton (million bales)	2.9	3.1	3.2	3.9	4.3	4.0	1.1	1.3	4.2
Jute (million bales)	3.3	4.7	4.6	3.1	2.9	4.2	0.9	2.1	5.4
Index Number of Agricultural Production (Base 1949-50=100)	95.6	97.5	102.0	114.3	117.0	116.8			

to 31 per cent in the First Nevertheless, the Plan emphasised that agricultural development must be the basis of the development of all other sectors and that efforts in the direction of increasing agricultural production and especially the output of foodgrains should not only not be slackened but should be accelerated The Plan placed the target for food production at 80 million tons, i e., an increase of about 22 per cent over the level of production in 1955-56 Substantial increases in the output of cotton, jute and other agricultural products were also envisaged

Table II shows the trends in agricultural production over the period of the Second Plan, as compared to the targets in the Plan

As will be seen from the table, the index of agricultural production showed a rise of about 20 per cent over the period of the Second Plan The target of additional foodgrains production was 14 7 million tons, the increase realised being 13 9 million tons The output of sugarcane in 1960-61 was substantially higher than the Plan had envisaged There were, on the other hand, shortfalls in cotton, oilseeds and jute On the whole, if one looks at the levels of agricultural production in 1960-61, the picture appears reasonably good The First Plan had started with a bad crop, the increase in agricultural production by the end of that Plan was only about 17 per cent if one takes 1949-50 as the basis for comparison On this comparison also, the performance of agriculture in the Second Plan period cannot be considered unsatisfactory Over the ten years to 1960-61, agricultural output showed a rise of about 40 per cent, and the rise in the production of foodgrains from around 52 million tons to 79 7 millions could even be considered impressive Overall, there is no doubt that a distinct upward trend in agricultural production was established over the first two Plans

It must be stressed, however, that for the major part of the Second Plan period, the domestic output of foodgrains did not keep pace with the increasing demand, and foodgrains prices rose by some 18 per cent despite imports of foodgrains totalling 18 million tons over the five-year period This is because of the fluctuations in domestic output from year to year A comparison of Plan-end figures, though convenient for some purposes, is

TABLE II

AGRICULTURAL PRODUCTION SECOND FIVE-YEAR PLAN

(In million long tons, unless otherwise stated)

	Production						Additional Production in 1960-61 over 1955-56	Second Plan Target	
	Base Year 1955-56	1956-57	1957-58	1958-59	1959-60	1960-61*		Additional	Total
Rice	27 1	28 6	25 1	30 4	31 1	33 7	6 6	4 9	32 0
Wheat	8 6	9 3	7 9	9 8	10 1	10 8	2 2	2 9	11 5
Total Cereals	54 9	57 4	53 8	63 0	63 8	67 2	12 3	13 1	68 0
Pulses	10 9	11 4	9 4	12 9	11 6	12 5	1 6	1 6	12 5
Total Foodgrains	65 8	68 8	63 2	75 9	75 4	79 7	13 9	14 7	80 5
Oilseeds	5 6	6 3	6 3	7 2	6 4	6 5	0 9	2 0	7 6
Sugarcane (*gur*)	6 0	6 8	7 0	7 2	7 8	10 4	4 4	1 8	7 8
Cotton (million bales)	4 0	4 7	4 7	4 7	3 5	5 4	1 4	2 5	6 5
Jute (million bales)	4 2	4 3	4 0	5 2	4 5	4 0	—0 2	1 3	5 5
Index Number of Agricultural Production (Base 1949-50=100)	116 8	124 3	115 9	133 5	130 3	139 7			

*Partially revised estimate, subject to revision

Sources Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India Bulletin on Food Statistics, February, 1964, Area and Production of Principal Crops in India—Pre-War Average to 1962-63 (Summary Tables), October, 1963 (Mimeo) not, by itself, an adequate measure of achievements. During the First Plan period, 1953-54 showed an increase of 10 million tons over the previous year's output. The next two years showed a small decline The foodgrains crop was back to 63 2 million tons in 1957-58 The next two years again showed a rise to around 75 million tons and the record output of 79 7 million tons was reached only in 1960-61, the last year of the Second Plan These fluctuations do not, of course, belie the underlying upward trend, but they reduce average availabilities and affect the course of prices. Since the steady increase in population, the growth of urbanisation and money income keep the demand going up progressively, at no time since the commencement of the Second Plan has the price situation been one of ease It has not been possible for the Government to build up stocks from domestic surpluses even in good years, and there has been, as mentioned above, a net absorption of imported foodgrains of the order of 15 million tons.

AGRICULTURE IN THE THIRD PLAN

The Third Five-Year Plan (1961-66) proposes a rapid move forward towards self-reliant and self-sustaining growth The major element in this advance is a substantial expansion of the basic and capital goods industries designed to supply from within the economy a significant proportion of the machinery and equipment needed for the high and rising levels of capital formation required in the successive plans Such an advance necessitates heavy investments not only in the industries concerned, but also in mining, in transport and in power. The scale of effort involved and the complexity of the organisational tasks to be put through in the Third Plan are therefore much greater than in the earlier Plans The achievement of a major breakthrough in industry, it has been clear from the outset, depended vitally on the results that can be achieved in the agricultural sector. The Third Plan, therefore, again gives a high priority to agriculture, and the public sector allocations to agriculture and irrigation were raised to 23 per cent of the total outlay, as compared to 21 per cent in the Second Plan

The difference in the Third Plan approach in this respect, as compared to the earlier Plans, is perhaps that while the earlier Plans tended to view agriculture mainly from the angle of satisfying the pressing needs for food consumption, there was added emphasis in the Third Plan on the role of the agricultural sector as the base for rapid industrial advance and as a substantial contributor to the much needed foreign exchange resources for the Plan, both through increased export earnings and import substitution. Agriculture is thus viewed as *a basic industry,* with a key role in the process of attaining self-sustaining growth and, therefore, deserving of maximum attention and effort. As the Third Plan report puts it "In the scheme of development during the Third Plan, the first priority necessarily belongs to agriculture Experience in the first two Plans, and especially in the Second, has shown that the rate of growth in agricultural production is one of the main limiting factors in the progress of the Indian economy . . The guiding consideration is that whatever is physically practicable should be made financially possible and the potential of each area should be developed to the fullest extent possible "[5] In keeping with this approach, the Third Plan —rightly—places as much importance on the building up of an adequate machinery for the implementation of programmes as on the suitability and adequacy of the programmes themselves.

The overall increase in agricultural production envisaged in the Third Plan is of the order of 30 per cent, as compared to the increase of 20 per cent realised over the preceding five years If this target is realised, the index of agricultural production (base 1949-50) would go up to around 180 by 1965-66. Table III gives the data on agricultural production for the first three years of the Third Plan as compared to the targets set for the five-year period.

In the first year of the Third Plan, there was a small increase in agricultural production, and the second year recorded a decline. There was a small increase in agricultural production in the third year of the Plan The output of rice was some 4 million tons larger than in 1962-63, but the output of wheat and other cereals and pulses seem to have recorded a fall. Altogether, 1963-64 was again relatively poor because of weather conditions,

---

[5] Report on the Third Five-Year Plan, *Op cit,* p 49

TABLE III

AGRICULTURAL PRODUCTION THIRD FIVE-YEAR PLAN

(In million long tons, unless otherwise stated)

	Production				Third Plan Target	
	Base Year 1960-61*	1961-62*	1962-63*	1963-64**	Additional	Total
Rice	33 7	34 2	31 9	36 5	11 3	45 0
Wheat	10 8	11 8	10 8	9 7	4 2	15 0
Total Cereals	67 2	68 3	67 0	69 5	15 8	83 0
Pulses	12 5	11 4	11 4	9 9	4 5	17 0
Total Foodgrains	79 7	79 7	78 4	79 4	20 3	100 0
Oilseeds	6 5	6 8	7 1	7 1	3 3	9 8
Sugarcane (*gur*)	10 4	9 9	9 5	10 2	—	10 0
Cotton (million bales)	5 4	4 5	5 3	5 4	1 6	7 0
Jute (million bales)	4 0	6 3	5 4	5 9	2 2	6 2
Index Number of Agricultural Production (Base 1949-50=100)	139 7	141 4	137 2	140 5		

* Partially revised estimate, subject to revision

** Final estimate, subject to revision

Sources Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India Bulletin on Food Statistics, February, 1964, Figures for non-food crops are taken from Area and Production of Principal Crops in India, Pre-War Average to 1962-63 (Summary Tables), October, 1963 (Mimeo), Figures for 1962-63 and 1963-64 are taken from *Agricultural Situation in India,* Vol XIX, No 5, August (Annual Number), 1964, p 541

so that the increase in agricultural output, if any, was small in the aggregate. Broadly speaking, therefore, agriculture would seem to have lost its expansionary momentum in the Third Plan This has given a set-back to the entire economy National income in the aggregate increased by 2 6 per cent in 1961-62; the increase in 1962-63 and 1963-64 was 2 4 per cent and 4 3 per cent respectively In the first two years of the Plan, per capita national income registered only a nominal increase There has been a continuous upward pressure on prices, larger food and cotton imports have had to be secured, and widespread concern has been felt as to the entire prospects of the Third Plan In terms of the recent indices of agricultural production, the average annual rate of growth over the last thirteen years or so works out to less than 3 per cent, which, clearly, is inadequate relatively to needs as well as potentialities

TECHNIQUES OF AGRICULTURAL PLANNING

The disappointing results in agriculture raise a number of questions Is there anything wrong with the targets — are they too high? Are the inputs envisaged for the achievement of the targets adequate, and have they been forthcoming? Are the various programmes being implemented effectively and with the requisite degree of co-ordination? Has the farmer the right incentives and facilities? These, in fact, are some of the questions underlying the "Third Plan Mid-term Appraisal" undertaken by the Planning Commission towards the end of 1963 These questions cannot be dealt with here in any detail, they are far too complex to be answered definitively except on the basis of first-hand knowledge, backed by intensive study and evaluation In the paragraphs that follow, only some broad considerations and approaches have been indicated

First, as to the targets set for the plans They are based on the estimates of demand for the various agricultural products and of the achievements deemed feasible on the basis of the proposed levels of financial and organisational inputs Many uncertainties are involved in this estimation, as, indeed, in all projections regarding trends and possibilities over a number of years But, planning for agriculture presents special difficulties because of the large numbers of small farmers through whom the targets have to be achieved. There are wide variabilities in soil and climatic conditions, in availability of irrigation and other facilities and, indeed, in the levels of skill and perseverance of the agricultural community in different parts of the country These technical and human aspects of the problem make it difficult to get a close fit between the national and State-wise and local targets In fact, the national totals have remained insufficiently broken down into district-wise and locality-wise targets, despite the efforts made to "plan from below" or to "reach out to the grass roots" There is as yet no integral line between the national targets and the results being sought on the fields.

The next question is as to the estimation and actual materialization of inputs In the task of estimating the required inputs, the practice has been to proceed in terms of "yardsticks" which give, on the basis of past experience, the relationship between the input of, say, additional irrigation or fertilizer and the increment in output that should result These yardsticks are inevitably broad indications only, and since, in any case, over a large part of the country a major input, namely, rain, is a variable quantity, the resulting total output cannot be predicted with any great precision Further, a great deal depends on how far the different inputs are co-ordinated, both in terms of quantities and of timing, and this introduces a further element of uncertainty in agricultural planning Finally, since the actual materialization of the inputs planned depends on the availability of supplies from elsewhere in the economy (as in the case of fertilizers), and on the adequacy of the machinery for distribution, the analysis of shortfalls (or over-fulfilment) in achievements involves much more than an assessment of technical (or technological) relationships.

In the Indian rural economy as it is at present organised, the targets set for each separate agricultural crop is, one might say, only a very rough indication of the results desired Their operational significance is in terms of overall policies, such as the setting of maximum and minimum prices, the extension of institutional credit and the provision of scarce commodities like fertilizer or steel At the field level, the effort has to be to encourage greater production to the greatest extent possible without attempting any detailed crop planning The acreage that comes under different crops depends essentially on the judgment of the farmer as to what will pay best.

PRICE POLICY FOR AGRICULTURE

Perhaps the most difficult question in the context of agricultural planning is the formulation of a price policy that would secure the broad pattern of increases in output envisaged in the plans, consistently with the maintenance of overall price stability and the avoidance of irksome, and, for all except short periods, unworkable controls An increase in the output of a particular crop can usually be secured through the incentive of a higher price This has been demonstrated clearly over the years for non-food crops, and it is reasonable to assume that the production of foodgrains would also show a fair, even if lesser, degree of responsiveness to price changes It is possible to argue that if agricultural output as a whole is to be raised substantially over the coming decade, the terms of trade, that is, the ratio of agricultural prices to the prices of other goods, should move in favour of the agriculturists Such an approach would be unsound and impracticable The relative growth rates required in the non-agricultural sector are higher than in agriculture, and the need is to divert the surplus manpower from the rural areas to the newly developing industries and services Increases in agricultural prices affect the whole price structure, and even if one were to regard the adverse effects of continuing price rises on fixed income earners as of secondary importance, there is no escape from the utmost vigilance as to cumulative price rises and a serious inflationary threat to the whole economy In the main and essentially, then, the incentive for increased production has to come from the larger incomes resulting from productivity gains rather than from price gains Nevertheless, within this framework, fixation of maximum and minimum prices, strategic stockpiling and purchases and sales in suitable areas to offset unduly sharp fluctuations in the prices received by the farmer can play a very helpful role in keeping up the appropriate incentives in the agricultural sector without detriment to the consumer and the overall interest of the economy Improvements in distributional machinery through the setting up of co-operative agencies are an essential aspect of this policy But, then, such structural changes involve persistent and continuing effort over a period and can rarely succeed once crisis conditions have begun to emerge

THE TASKS AHEAD

The increase in agricultural production secured in the first two Plans would indicate that, despite all the limitations of agricultural planning in the Indian context, the targets set were not unrealistic Serious doubts have, however, begun to be felt as to the attainability of the accelerated increases in agricultural output postulated in the Third Plan It is difficult to predict the levels of production that will have been reached by the end of the Third Plan, but the Planning Commission itself now takes the view that foodgrains production by 1965-66 would probably be around 92 million tons as compared to the target of 100 million tons The Fourth Plan is in the early stages of formulation and the question again is what order of increase in agricultural output could be envisaged realistically over the period of those five years, *viz*, 1966-71

It is obvious that the limiting factor is not on the demand side, but on the supply side The economy needs and will absorb all the additional output we can get The crux of the problem is effective implementation of programmes that will produce the results desired This is not by any means a new truth, it has been stressed in the Third Plan document and in all discussions on the subject. An intensification of effort in all directions is needed There have been shortfalls in the utilisation of irrigation water both in the Second and in the Third Plans The programmes of fertilizer production have lagged seriously behind schedule. The quality of extension work has been below expectations. Progress in consolidation of holdings has been inadequate. Far greater effort is needed in respect of seed multiplication and distribution, soil conservation, the spread of improved agricultural techniques and practices, and the creation of a new atmosphere of endeavour and hope in rural areas There might be advantage in terms of practicality, of concentration of all such effort, to begin with, in areas which are judged to be the most favourable for showing results.

On the basis of current forecasts, the population of India will have increased to 555 million by 1971 and to 625 million by 1976 This poses a very serious challenge; it *could* reduce development to a continuously losing game. High levels of investment and of development effort generally will be needed over the next two Plans and more to keep the economy going forward at a reasonable pace. This will call for corresponding performance in agriculture There is no panacea; the battle has to be fought on the basis of a full mobilisation of effort and the continuous assessment and upgrading of it in terms of the results achieved from year to year The Annual Plans for agriculture have to become a reality and the machinery for implementing them, for sizing up the emerging difficulties and for securing quick and effective adaptation of policies and programmes to them has to be greatly strengthened The need is not merely for administration but for organisation, leadership and follow-up action One could perhaps sum it all up by saying that the Fourth Plan should have within it a three-year agricultural plan aimed, on the basis of a careful examination of all aspects of every major agricultural (and related industrial or other) programme, at overcoming the lags and deficiencies that have resulted in the agricultural stalemate of the first three years of the Third Plan There is, perhaps, no reason why an intensified "put the agricultural plan to the test" programme should not be taken in hand the earliest possible